



## INTERIM REMEDIAL ACTION WORK PLAN

Leather-Rich, Inc.
1250 Corporate Center Drive
Oconomowoc, Wisconsin
BRRTS Nos. 02-68-581237 and 06-68-58959

November 21, 2019 File No. 20.0156045.00



## **PREPARED FOR:**

Leather-Rich, Inc.
Oconomowoc, Wisconsin

## **GZA** GeoEnvironmental, Inc.

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GEOTECHNICAL

ENVIRONMENTAL

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CONSTRUCTION MANAGEMENT

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Mr. Paul Grittner, Advanced Hydrogeologist Wisconsin Department of Natural Resources 141 NW Barstow Street Waukesha, Wisconsin 53188-3789

Re: Interim Remedial Action Work Plan Leather-Rich, Inc. 1250 Corporate Center Drive Oconomowoc, Wisconsin BRRTS No. 02-68-581237 and 06-68-58959

Dear Mr. Grittner:

As a follow-up to the Site Investigation Status Update Report submitted to the Wisconsin Department of Natural Resources (WDNR) on July 19, 2019, GZA GeoEnvironmental, Inc. (GZA), on behalf of Leather-Rich, Inc., (Leather-Rich), is pleased to submit this Interim Remedial Action Work Plan ("Work Plan") for the Leather-Rich facility located at 1250 Corporate Center Drive in the City of Oconomowoc, Wisconsin ("Site"). The Work Plan provides the design and implementation protocol for the remedial pilot testing to be conducted at the Site to address tetrachloroethene (PCE) in soil, groundwater, and vapors. The goal of the pilot testing is to identify the remedial system performance requirements necessary to address the PCE on-Site to achieve Site closure in accordance with Chapter NR 726 of the Wisconsin Administrative Code.

As requested in our June 13, 2019, GZA advanced and sampled additional monitoring wells and piezometers on July 11 through 13, 2019 on-Site to further evaluate the vertical and horizontal extent of dissolved PCE in groundwater. The results of the analytical testing performed on the recently collected soil and groundwater samples is also included in this Work Plan.

We are proceeding with the interim remedial actions as proposed in this Work Plan, based on authorization received at our meeting on June 13, 2019. Should you have any questions or comments, please feel free to contact the undersigned at (262) 754-2594.

Very truly yours,

GZA GeoEnvironmental, Inc.

Heidi A. Woelfel Project Manager

Senior Project Manager

James F. Drought, P.H. Principal Hydrogeologist

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**Attachments** 





TABLE 3

TABLE 4

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#### 1.0 INTRODUCTION

GZA GeoEnvironmental, Inc. (GZA), on behalf of Leather-Rich, Inc. (Leather-Rich), is submitting this Interim Remedial Action Work Plan ("Work Plan") for the Leather-Rich facility located at 1250 Corporate Center Drive in the City of Oconomowoc, Wisconsin ("Site"). Site investigation work was initiated at the Site in 2018 by Giles Engineering, Inc. (Giles), and continued by GZA in April and July 2019. The results of the Site investigations identified the highest concentrations of tetrachloroethene (PCE) in soil within the 0- to 4-foot interval below ground surface (bgs) within the Site building, near the dry cleaning process area. PCE was also reported in soils at deeper soil intervals to 16 feet bgs across the Site at concentrations exceeding the soil to groundwater residual contaminant level (RCL). The concentrations of PCE in soil generally decreased with depth.

Based on the most recent sampling completed in July 2019, the depth to groundwater at the Site varies from about 15.4 to 17 feet bgs. Dissolved concentrations of PCE exceeding the enforcement standard (ES) exist at the Site with the highest concentrations near the dry cleaner process area. The source of the PCE, in both soil and groundwater, is likely due to fugitive emissions from daily use near the dry cleaning area.

On June 13, 2019, representatives from Leather-Rich, the Wisconsin Department of Natural Resources (WDNR), Axley Brynelson, and GZA met to discuss the Site investigation findings at the WDNR office in Waukesha, Wisconsin. Remedial options to address the PCE-affected soil and groundwater were also discussed. On July 19, 2019, GZA submitted a Site Investigation Status Update Report to the WDNR, which provided a summary of the Site investigation activities and results to-date.

This Work Plan is being submitted to provide the anticipated scope of work for the soil and groundwater remedial activities at the Site, the design elements of the remedial pilot tests, the testing and evaluation criteria to determine the effectiveness of the pilot tests and to ultimately determine the scope of the full scale remedial efforts. The goal of the pilot testing is to identify the remedial system performance requirements necessary to address the PCE on-Site to achieve Site closure in accordance with Chapter NR 726 of the Wisconsin Administrative Code (Wis. Adm. Code). Please note that this report is subject to the Limitations provided in Appendix A.

### 1.1 SITE INFORMATION

The Site is located at the street address of 1250 Corporate Center Drive within the City of Oconomowoc, within the northeast ¼, of the northwest ¼ of The United States Public Land Survey Section No. 15, Township 7 North, Range 17 East, Waukesha County, Wisconsin. A Site Location Map is provided as Figure 1.

## 1.2 SITE CONTACT INFORMATION

Responsible Party: Leather-Rich, Inc.

1250 Corporate Center Drive Oconomowoc, Wisconsin 53066

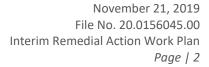
Attn: Ms. Cheryl Chew

(262) 569-3100

Consultant: GZA GeoEnvironmental, Inc

> 20900 Swenson Drive, Ste 150 Waukesha, Wisconsin 53186 Attn: Ms. Heidi Woelfel

(262) 754-2594





## 2.0 BACKGROUND

The Site is located on an approximately 4-acre parcel within a commercial business park in the City of Oconomowoc, Wisconsin. The Leather-Rich building is approximately 40,000 square feet and is situated along the southern Site boundary. A parking lot is located west of the building adjacent to Executive Drive, a parking lot and grass area are located on the east side of the building along Corporate Center Drive, and a grass area is located north and south of the building. Surrounding properties are occupied by commercial businesses. Figure 2 is a Site Plan that shows the Site layout and features.

Prior to construction on this property in 1993, the Site was unimproved land used for agricultural purposes. Based on the Phase I Environmental Site Assessment (ESA) conducted in September 2017 by Giles, there were no known spills reported at the Site prior to development that would require investigation activities to confirm the soil and groundwater conditions. This Site was developed as a green-field site with the intended purpose of the building to be operated as a dry cleaning facility. The facility has operated in the original building constructed in 1993, with one addition added in approximately 1997. The configuration of the operations and locations of dry cleaning have remained consistent within the building since it began operation in 1993. Based on the RECs identified in Giles' Phase I ESA Report and interviews with the current owner that constructed the original building, the only area where dry cleaning operations are or were performed is along the north wall of the building, near the northeast corner.

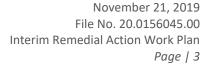
The dry cleaning operations are performed in an area that is approximately 100 feet long by 50 feet wide, along the north wall of the building. This area is referred to as the "containment area" in this Work Plan. The dry cleaning process and storage area was constructed with a 60-mil polyethylene membrane installed as a containment area beneath the dry cleaning area to contain spills or releases. The membrane was reported to be one piece of material with no seams, installed at a depth of 2 to 3 feet below the floor elevation. The north edge of the membrane was secured to the north building foundation wall based on Site construction photos; however, the completion details of the edges along the west, south, and east sides are not known. Photographs from building construction do not show the completed liner installation along the west, south, or east sides of the containment area. The photographs show the liner under construction sloping from approximately 6 inches below grade to the bottom at 2 to 3 feet below grade. It is unknown if the liner is sealed along the west, south, and east sides and, therefore, it is possible that any accumulating liquid on top of the liner could overflow the liner on these sides.

The area above the membrane was backfilled with sand and base course gravel, and the concrete floor was placed above the gravel. The concrete floor in the containment area is recessed approximately 0.25-foot below the surrounding building floor level to the west and south to provide secondary containment in the event of a spill of dry cleaning fluids. No spills of dry cleaning solvents are known to have occurred within the containment area.

The dry cleaning equipment and machines in this area of the facility are installed on 4-inch raised concrete slabs. The dry cleaning machines represent a closed loop system and the PCE used in the dry cleaning operation is recovered and treated for re-use. PCE is delivered to the Site via the overhead doors located west of the process area and is wheeled to a PCE storage tank in the process area, which is located in the containment area along the north wall, behind the machine and process area.

### 3.0 SUBSURFACE CONDITIONS

The soils encountered at the Site consisted of a fill layer in the upper 3 to 4 feet of the soil column. The fill included silty clay and rock fragments. Beneath the fill was poorly- to well-graded sand that coarsened downward, transitioning to fine





to coarse gravel. The maximum depth explored was 40 feet bgs at PZ-1 where the gravel was underlain by poorly-graded sands. Bedrock was not encountered during the Site activities.

### 4.0 SITE HYDROGEOLOGY

During GZA's Site investigation activities in April and July 2019, the depth to groundwater was measured in each well to determine the groundwater elevation and horizontal direction of groundwater flow. Groundwater across the Site is at a depth of approximately 16 feet bgs and groundwater flow was measured to be northwest toward Silver Lake. The groundwater gradient at the Site is very shallow. The depth to groundwater measured during the April 2019 activities in MW-4, south of the building near a grass-lined stormwater swale, was at a depth of approximately 13 feet, which is approximately 3 feet higher than other wells on-Site. The depth to water in this well appears to be influenced by infiltration of stormwater that has occurred from time to time following storm events. The soils at the Site are composed of sand and gravel, which is conducive to infiltration of stormwater. Groundwater elevations are presented on Table 1.

The groundwater gradient for the Site is 0.005 feet per feet (ft/ft) to the northwest along the groundwater flow vector. During the 2018 Site investigation work conducted by Giles, the horizontal hydraulic conductivity measured at the location of MW-1 was  $5.122 \times 10^{-3}$  centimeters per second (cm/s).

### 5.0 SUMMARY OF SOIL AND GROUNDWATER RESULTS

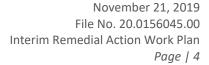
In April 2019, GZA coordinated the installation of six NR 141-compliant monitoring wells, the advancement of 10 soil borings, the collection of soil profile samples, and the collection of groundwater samples from the monitoring well network. On July 15 and 16, 2019, GZA coordinated the installation of two NR 141-compliant monitoring wells and one NR 141-compliant piezometer. The soil borings were installed in accordance with Chapter NR 141 of the Wis. Adm. Code utilizing a direct-push rig operated by On-Site Environmental of Sun Prairie, Wisconsin. The soil borings were advanced to depths of 5 to 16 feet bgs to collect select soil intervals for laboratory analysis.

The monitoring wells were installed using 4.25-inch hollow-stem augers operated by On-Site Environmental. The monitoring wells were constructed with 10 feet of 2-inch poly vinyl chloride (PVC), 0.010-inch screen and riser. The piezometers were constructed with 5 feet of 2-inch PVC, 0.010-inch screen and riser. A sand filter pack was placed around the well screen to approximately 2 feet above the screen and the annular space from the top of the sand filter pack to approximately 1 foot bgs was filled with bentonite chips. The surface of each well was finished by placing a flush-mount well box with concrete apron over and adjacent to the well.

On April 16, 17, and 18, 2019, GZA collected groundwater samples from the monitoring well network utilizing low-flow sampling protocol. Select monitoring wells and piezometers were sampled again on July 19, 2019. Each well was purged using a peristaltic pump connected to a flow-through cell equipped with a YSI multi-meter to measure the geochemical parameters, including temperature, dissolved oxygen (DO), oxidation reduction potential (ORP), conductivity, and pH. Upon stabilization of the geochemical parameters, groundwater samples were collected directly into laboratory-supplied containers for analysis of volatile organic compounds (VOCs) by United States Environmental Protection Agency (USEPA) Method 8260.

## 5.1 SOIL

The results of the soil analytical data indicated that the VOCs detected at the Site were related to chlorinated hydrocarbons associated with dry cleaning operations. Chlorinated hydrocarbons were detected in the soil along the south side of the





containment area and north of the building. Soil samples were not collected from beneath the containment area to not compromise the membrane, and soil samples were not collected west of the containment area because this area had limited access due to overhead equipment. The other borings advanced further west of the containment area indicated that the soil concentrations were delineated in this direction.

The highest concentrations of PCE in soils along the south side of the containment were adjacent to the containment area and began in the upper 4 feet beneath the concrete floor, extending to approximately 16 feet, the depth to groundwater. The concentrations exceeded the soil to groundwater RCLs, but were less than the direct contact RCLs. The concentrations decreased with depth, indicating that the PCE was released to the soils from near the surface, or possibly from leakage from the membrane under the containment area.

The highest PCE concentrations located north of the building existed in the 4- to 8-foot depth interval, and extended to groundwater. This distribution of PCE in soil north of the building was indicative of a release emanating from beneath the building, the building foundation acting as a barrier in the upper 4 feet, and not from a surficial release outside of the building from a spill or dumpster. The highest concentrations were located along the north wall of the building, decreasing with distance north from the building.

One soil boring, SB-18, was advanced in the loading dock area to evaluate the area for surficial releases of chlorinated hydrocarbons. The sample results from this boring did not indicate the presence of chlorinated hydrocarbons, therefore, this area was not considered to be a potential source area.

The concentrations detected in the soils outside of the building along the northern Site boundary were generally in the 16- to 18-foot depth interval. This interval was consistent with the water table, therefore, the concentrations were likely from the fluctuation of groundwater in the soil column.

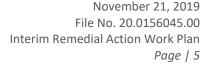
## 5.2 GROUNDWATER

The VOC results for the groundwater sampling indicated that the groundwater plume was migrating from the building to the northwest. The highest concentration of PCE detected in groundwater was at the location of MW-6 along the north wall of the building. Two additional wells (MW-12 and MW-13) were installed in April 2019, and in July 2019, MW-17 and PZ-3 were installed northwest of MW-6 to evaluate the dissolved concentrations of PCE northwest of MW-6. Based on the concentrations, it appeared that the plume was migrating toward MW-13 and MW-17, which was consistent with the previous groundwater flow direction.

Monitoring wells MW-2 and MW-12 appear to be along the edge of the downgradient plume. Inside of the building, MW-9, near the southwest corner of the containment area, had the highest PCE concentration, indicating a potential release in this area. As previously noted, monitoring wells were not advanced beneath the containment area so that the membrane was not compromised. Monitoring well MW-9 and MW-12 were located along a similar flow direction as MW-6 and MW-13.

Following the groundwater monitoring well installation activities conducted in July 2019, select monitoring wells from the network were sampled for VOCs. Monitoring wells MW-1, MW-2, MW-6, MW-12, MW-13, MW-16, MW-17, and PZ-3 were sampled using a low-flow sampling network utilizing low-flow sampling protocol. Each well was purged using a peristaltic pump connected to a flow-through cell equipped with a YSI multi-meter to measure the geochemical parameters of temperature, DO, ORP, conductivity, and pH.

Upon stabilization of the geochemical parameters, groundwater samples were collected directly from the tubing prior to the flow-through cell. The groundwater samples were collected in laboratory-supplied containers, placed on ice in an insulated cooler, and submitted to Pace Analytical of Green Bay, Wisconsin under chain-of-custody protocol for analysis of VOCs by USEPA Method 8260. Table 2 presents the aquifer parameters for the monitoring wells.





The results of the July 2019 sampling event confirmed that the horizontal direction of groundwater flow is northwest. PCE was detected in exceedance of the ES in the groundwater sample collected from monitoring well MW-17, installed in July 2019 along the northwestern property boundary, at a concentration of 187 micrograms per liter ( $\mu$ g/l). PCE was also detected in the groundwater sample collected from piezometer PZ-3, installed in July 2019 along the groundwater flow vector, at a concentration at 106  $\mu$ g/l. Based on the results of the groundwater sampling conducted in July 2019, the lateral extent of dissolved PCE is not yet defined to the northwest and will likely require the advancement and sampling of a monitoring well off-Site. Further, the vertical extent of dissolved PCE is not yet defined along the groundwater flow vector and will likely require the advancement and sampling of a deeper piezometer near PZ-3, and also a piezometer near the northwest property boundary. Table 3 and Figure 3 present the groundwater analytical results. Appendix B presents the soil boring logs, well construction logs, and development forms and Appendix C presents the laboratory report.

An evaluation of the daughter products indicated that limited reductive dichlorination of the PCE has occurred in the area of the highest concentrations of PCE. The soils at the Site predominantly consist of sand and gravel and contain little organic carbon to facilitate the reductive dichlorination as an electron donor. In addition, the geochemical parameters collected during low-flow sampling indicated that the aquifer was likely anaerobic to mildly aerobic, which limited the reductive dichlorination of PCE. There were indications in the measured geochemical parameters that reductive dichlorination could represent a viable remedial alternative if the aquifer was amended to provide the proper conditions.

#### 6.0 SOIL CLEANUP OBJECTIVE

To satisfy the remedial action objective established in Wis. Adm. Code NR 722, soils must be remediated to the standards established in Wis. Adm. Code NR 720. Two types of standards have been established; numerical and performance. Numerical standards, referred to as RCLs, are concentration-based standards. If soil constituents are remediated to concentrations below the RCLs, then adequate soil remediation has been completed. However, given the location of the soils affected with PCE within the vadose beneath the building and the Site-wide PCE-affected soils exceeding the soil to groundwater standards, the remediation of the chlorinated VOCs to numerical RCLs, that are protective of both groundwater quality and human health, is considered impractical. Since it may not be practical to achieve a numerical RCL, a performance-based standard may be more applicable to the Site. As an alternative to numeric RCLs, Chapter 720 allows the use of standards that demonstrate that the soil or groundwater constituents will not affect human health or the environment. A performance-based alternative could consist of an engineered remedial system, a mass reduction goal, or engineered barriers and natural attenuation.

### 7.0 GROUNDWATER CLEANUP OBJECTIVE

In order to achieve regulatory closure and receive a Certificate of Completion under the VPLE program, as well as achieve the remedial action objective established in Wis. Adm. Code NR 722, the groundwater will need to be remediated to reach the Preventive Action Limits (PALs) for PCE and its daughter products or be capable of achieving the PALs on-Site in a reasonable timeframe. The requirements of NR 722 do allow for residual groundwater concentrations to remain that exceed the PAL if a PAL exemption is granted for the Site by the WDNR. The ES for PCE was recently revised from 5 to 20 µg/l in Wis. Adm. Code Chapter NR 140.



## 8.0 SOIL VAPOR EXTRACTION PILOT TEST

The interim soil remedial option selected for the Site, based on the physical and chemical properties of PCE and the coarse-grained subsurface conditions, consists of the operation and performance of a soil vapor extraction (SVE) system. SVE is a proven technology, which involves the induction of airflow in the subsurface with an applied vacuum. This process enhances the in-situ volatilization of the PCE and daughter products and can capture the soil vapors where it is removed under vacuum and discharged to the atmosphere or is treated prior to discharge, depending on the vapor concentrations.

A pilot test SVE well was previously installed by GZA adjacent to the north exterior of the building to determine the effectiveness of capturing the PCE vapors from the unsaturated soil zone. Subsurface airflow will be induced with a pressure gradient applied by the vertical SVE well, which will have a negative pressure from a vacuum applied via an external blower. This gradient will promote the propagation of soil vapors to migrate toward the SVE well for capture. The subsurface conditions and the vapor migration pathways, the construction of the SVE well, the soil porosity and the air permeability, were evaluated by GZA to determine the pilot SVE well test flow rate and radius of influence. As indicated in the Site Investigation Status Update Report submitted on July 19, 2019, vapor probes were also installed by GZA within and outside to measure the propagation of vacuum during the SVE pilot test.

The pilot test for the SVE will be initiated in September 2019. The SVE pilot test will be performed on the 4-inch diameter SVE well with 10 feet of 0.010-inch slotted screen with schedule 40 PVC riser to the surface. The screen has been installed to approximately 14 to 4 feet bgs. The location of the SVE well is near the existing soil boring SB-8 and monitoring well MW-6 located outside of the building, to the north of the containment area. The location is covered by concrete and is located near a shed, which could potentially house the blower equipment.

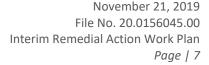
The pilot test will be conducted during a one-day event utilizing a blower capable of achieving up to 22 inches of mercury and 325 cubic feet per minute (CFM). The blower will be equipped with a damper to allow stepped increases on the CFM over time. The test will begin with the lowest blower rate that can be tested in the monitoring points. Each point will be tested to determine the vacuum during the stepped test. At regular timed intervals, the blower rate will be increased and the monitoring points will be measured again. The results of the vacuum readings will be plotted against the blower rate to determine when the increased rate of the blower shows little to no change in the vacuum readings.

## 8.1 SVE CONFIRMATION TESTING

In order to determine the effectiveness of the pilot test and the radius of influence of the pressure gradient, the existing vacuum monitoring points will be monitored during the pilot test. The locations of the vapor monitoring points are presented in Table 4 and are shown on Figure 2.

**Table 4 - Vacuum Monitoring Points** 

Vapor Monitoring	Screened	Distance From	Direction From
Point	Interval (feet)	SVE Well (feet)	SVE Well
MW-6	21-16 feet	16 feet	East
SB-8	20-10 feet	16 feet	East
VP-4	5-3 feet	6 feet	East
VP-5	5-3 feet	40 feet	East
MW-9	20.5-15.5 feet	44 feet	South
VP-1	5-3 feet	52 feet	South
VP-2	5-3 feet	66 feet	Southeast
SB-6	23-13 feet	60 feet	Southeast
MW-11	22-12 feet	71 feet	Southeast





Each of the vapor monitoring points will be sampled during the pilot test at timed intervals to determine the radius of the SVE well under differing applied vacuums and flow rates. A magnehelic vacuum gage will be used at each vacuum monitoring point to determine the radius of influence of the vacuum. The gauges will be connected to sealed ports with valves which will be connected to the top of each monitoring point. The results of the SVE pilot test will be submitted to the WDNR for review following completion.

### 9.0 GROUNDWATER CARBON AMENDMENT INJECTION PILOT TEST

The dissolved plume of PCE in groundwater will be addressed by enhanced reductive dechlorination (ERD). Due to the nature of the sand and gravel deposits at the Site, there is limited available carbon to be utilized to drive the dechlorination of PCE to completion. A pilot test will be conducted to determine the volume and type of carbon source amendment to be added to the groundwater to promote the reductive dechlorination. GZA previously installed seven injection points north of the containment area outside of the building utilizing direct push with soil sampling and consisted of a 2-inch PVC well to 20 feet bgs with 10 feet of 0.010-inch screen. Each injection point is finished with a protective flush-mount cap and an attachment to allow for the gravity feed or injection under pressure of the amendment into the subsurface.

Prior to the amendment pilot test, GZA will collect groundwater elevations, aquifer parameters, and groundwater samples from the monitoring well network. The samples will be collected using low-flow sampling protocol and will be placed into laboratory-supplied jars. The samples will then be sent under chain-of-custody protocol to a Wisconsin-accredited laboratory for analysis of VOCs by USEPA Method 8260.

The amendment source of emulsified vegetable oil, such as LactOil®, has been identified as a carbon source for the pilot test. LactOil® is a high organic content fermentable oil, which is mixed with water and injected into the subsurface. The LactOil® is a low viscosity product, that when mixed with water will form droplets that are suitable for the sand and gravel deposits encountered at the Site. The pilot test will be conducted by injecting one part of LactOil® to nine parts injection fluid (water), which will produce a 10% oil by volume solution. The water and LactOil® will be mixed in a tank and will be connected to each injection well for gravity feed. The depth to water will be monitored in the adjacent monitoring wells during the pilot test injection activities. Appendix D presents the product information sheet for LactOil®.

## 9.1 WPDES PERMIT AND EXEMPTION REQUEST

The issuance of an injection permit (Wisconsin Pollution Discharge Elimination System [WPDES]) by the WDNR is required before an injection can proceed. GZA will prepare a Request for Coverage under WPDES Wastewater Discharge Permit (WI-0046566-07) for Contaminated Groundwater from Remedial Operations. GZA will also prepare the exemption request, as identified under Wis. Adm. Code Chapter NR 140.28(5), to detail the prerequisites and criteria for granting a temporary exemption when infiltration or injection is utilized for a remedial action. The WPDES permit and NR 140 exemption request will be submitted to the WDNR in September 2019.

## 9.2 GROUNDWATER AMENDMENT INJECTION SAMPLING

GZA will monitor the effectiveness of the carbon source amendment by conducting groundwater sampling at select monitoring wells at one month, two months, and three months following the initial injection. The wells to be sampled for performance monitoring include MW-9 (source area), MW-8 (adjacent to injection points), MW-13 (downgradient), and MW-17 (downgradient near the property boundary). The samples will be collected using low-flow sampling protocol and will be placed into laboratory-supplied jars. The samples will then be sent under chain-of-custody protocol to a Wisconsin-accredited laboratory for analysis of VOCs by USEPA Method 8260 and for Fractional Organic Carbon under American



Society for Testing and Materials (ASTM) D2974-87, *Standard Test Methods for Moisture, Ash, and Organic Matter of Peat and Other Organic Soils*.

Based on the results of the groundwater sampling, the effectiveness of the carbon source amendment type and volume will be assessed. The results of the pilot test will be submitted to the WDNR for review following completion.

## 10.0 PROPOSED SCHEDULE

The proposed pilot testing remedial schedule is presented below:

		Inte	erim Remedia	I Project Scho	edule	
	2	019		20	020	
Leather-Rich, LLC	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter
Drill SVE Well				(19)		
Set up portable blower	_					
SVE Step Test		E.				
Air Sample Collection		•				
Data Review						
WPDES Permitting	ii.					
Injection Pilot Testing						
Well installation						
Injection of Carbon Source		-				
Groundwater Pilot Test Sampling						
Monitoring and sampling						



## **TABLES**

## TABLE 1 GROUNDWATER LEVEL ELEVATION SUMMARY

# Leather-Rich, Inc. 1250 Corporate Center Drive Oconomowoc, Wisconsin

		-	Vell ations		ell ruction			Grou	ndwater		Date
GZA/ Giles	Well ID	тос	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	Groundwater Measured
							17.23	85.79	6.27		9/24/1993
							17.42	85.60	6.08	-0.19	10/24/2017
Giles	MW-1	103.02	103.23	23.5	10		18.07	84.95	5.43	-0.65	3/15/2018
							16.86	86.16	6.64	1.21	6/7/2018
							16.71	86.31	6.79	0.15	7/18/2018
GZA	MW-1	103.05	103.25	22.75	10	17.11	16.91	86.14	5.84		4/16/2019
GZA	IVI VV - I	103.03	103.23	22.73	10		16.90	86.15	5.85	0.01	7/15/2019
							16.99	84.97	4.01		3/15/2018
Giles	MW-2	101.96	102.23	21	5		15.89	86.07	5.11	1.10	6/7/2018
							15.74	86.22	5.26	0.15	7/18/2018
07.4	MAXV 2	101.06	102.22	20.0	-	16.16	15.90	86.06	4.90		4/17/2019
GZA	MW-2	101.96	102.22	20.8	5		15.87	86.09	4.93	0.03	7/15/2019
							17.74	85.07	3.26		3/15/2018
Giles	MW-3	102.81	103.14	21	5		16.61	86.20	4.39	1.13	6/7/2018
							15.44	87.37	5.56	1.17	7/18/2018
GZA	MW-3	102.81	102.22	20.72	5	16.06	16.65	86.16	4.07		4/7/2019
							13.76	85.06	4.24		3/15/2018
Giles	MW-4	98.82	99.17	18	5		12.64	86.18	5.36	1.12	6/7/2018
							12.50	86.32	5.50	0.14	7/18/2018
GZA	MW-4	100.29	100.50	17.86	5	12.81	12.60	87.69	5.26		4/24/2018
							17.10	84.88	2.90		3/15/2018
Giles	MW-5	101.98	102.31	20	5		16.03	85.95	3.97	1.07	6/7/2018
							15.89	86.09	4.11	0.14	7/18/2018
GZA	MW-5	101.93	102.20	20.82	5	16.32	16.05	85.88	4.77		4/18/2019
							17.90	84.99	3.10		3/15/2018
Giles	MW-6	102.89	103.25	21	5		16.78	86.11	4.22	1.12	6/7/2018
							16.66	86.23	4.34	0.12	7/18/2018

## TABLE 1 GROUNDWATER LEVEL ELEVATION SUMMARY

# Leather-Rich, Inc. 1250 Corporate Center Drive Oconomowoc, Wisconsin

			Vell ations		ell ruction			Grou	ındwater		Date
GZA/ Giles	Well ID	тос	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	Groundwater Measured
GZA	MW-6	102.85	103.15	20.95	5	17.10	16.80	86.05	4.15		4/16/2018
GLA	IVI VV -U	102.63	103.13	20.93	3		16.79	86.06	4.16	0.01	7/15/2019
							17.95	85.02	3.05		3/15/2018
Giles	MW-7	102.97	103.27	21	5		16.83	86.14	4.17	1.12	6/7/2018
							16.73	86.24	4.27	0.10	7/18/2018
GZA	MW-7	102.98	103.20	20.9	5	17.07	16.85	86.13	4.05		4/16/2018
							18.01	85.03	2.99		3/15/2018
Giles	MW-8	103.04	103.24	21	5		16.90	86.14	4.10	1.11	6/7/2018
							16.79	86.25	4.21	0.11	7/18/2018
GZA	MW-8	102.98	103.12	21	5	16.99	16.85	86.13	4.15		4/16/2019
Giles	MW-9	103.15	103.47	21	5		16.57	86.58	4.43		7/2/2018
Glies	IVI VV -9	105.15	103.47	21	3		16.91	86.24	4.09	-0.34	7/18/2018
GZA	MW-9	103.07	103.35	20.05	10	17.28	17.00	86.07	3.05		4/17/2019
GZA	MW-10	103.12	103.38	21.92	10	17.38	17.12	86.00	4.80		4/17/2019
GZA	MW-11	103.00	103.36	23.04	10	17.36	17.00	86.00	6.04		4/17/2019
GZA	MW-12	102.41	102.78	22.04	10	16.98	16.61	85.80	5.43		4/17/2019
GZA	IVI VV -12	102.41	102.78	22.04	10		16.41	86.00	5.63	0.20	7/15/2019
GZA	MW-13	102.45	102.78	22.10	10	16.83	16.50	85.95	5.60		4/17/2019
							16.44	86.01	5.66	0.06	7/15/2019
GZA	MW-14	101.40	101.83	22.20	10	15.81	15.38	86.02	6.82		4/17/2019
GZA	MW-15	101.92	102.27	22.10	10	16.25	15.90	86.02	6.20		4/17/2019
GZA	MW-16	89.20	95.70	19.60	10	21.97	15.47	73.73	4.13		7/15/2019
GZA	MW-17	96.60	102.00	21.22	10	21.62	16.22	80.38	5.00		7/15/2019
Giles	PZ-1	102.90	103.23	38	5		16.77	86.13	21.23		6/7/2018
							16.59	86.31	21.41	0.18	7/18/2018
GZA	PZ-1	102.85	103.15	36.75	5	17.07	16.77	86.08	19.98		4/16/2019

## TABLE 1 GROUNDWATER LEVEL ELEVATION SUMMARY

## Leather-Rich, Inc. 1250 Corporate Center Drive

Oconomowoc, Wisconsin

			Vell ations		ell ruction			Grou	ındwater		Date	
GZA/ Giles	Well ID	тос	Ground Surface	Well Depth (bgs)	Screen Length	Depth (bgs)	Depth (TOC)	Calculated Elevation	Feet of Water in Well	Change in Elevation	Groundwater Measured	
Giles	PZ-2	102.99	103.47	36	5		16.56	86.43	19.44		7/2/2018	
Glies	PZ-2	102.99	103.47	30	3		16.73	86.26	19.27	-0.17	7/18/2018	
GZA	PZ-2	102.90	103.35	35.70	5	17.34	16.89	86.01	18.81		4/17/2019	
GZA	PZ-3	98.40	103.40	36.31 5		21.37	16.37 82.03		19.94		7/15/2019	

Notes:

TOC: Top of casing

bgs: Below ground surface

All measurements are recorded in feet.

Survey measurements were referenced to a temporary benchmark, the north rim of the manhole located in the northeast corner of the Leather-Rich parking lot, which was assigned an elevation of 100 feet.

# TABLE 2 GROUNDWATER PARAMETERS AND WATER DEPTH Leather-Rich, Inc. 1250 Corporate Drive Oconomowoc, Wisconsin

Well ID	MV	W-1	MV	W-2	MW-3	MW-4	MW-5	MV	W-6	MW-7	MW-8	MW-9	MW-10	MW-11	MV	V-12	MV	V-13
Date	4/16/2019	7/152019	4/17/2019	7/15/2019	4/17/2019	4/24/2019	4/18/2019	4/16/2019	7/15/2019	4/16/2019	4/16/2019	4/17/2019	4/17/2019	4/17/2019	4/17/2019	7/15/2019	4/17/2019	7/15/2019
Depth to Water (ft btoc)	16.91	16.9	15.9	15.87	16.65	12.6	16.05	16.8	16.79	16.85	16.91	17	17.12	17	16.61	16.41	16.5	16.44
DO (mg/L)	4.86	9.86	7.65	9.8	6.49	9.38	6.54	6.44	9.02	5.99	6.52	7.71	7.59	8.17	5.42	8.47	5.9	7.03
ORP (mV)	159	46.9	136	18.9	196	-10.6	155	141	43.9	164	167	156	162	165	170	69	183	61.2
Conductivity (mS/cm)	0.994	1.402	1.15	1.284	1.13	0.646	1.23	0.857	1.128	0.812	0.709	0.92	1.11	1.12	0.95	1.3	1.12	1.318
Temperature (°C)	19.84	13	10.3	14	12.6	9.2	16.02	17.17	16	18.63	17.75	17.27	15.75	17.61	17.24	14	15.5	13
pH (s.u.)	7.49	7.12	7.65	7.83	7.1	7.8	7.25	6.82	7.35	6.15	6.99	7.48	7.57	7.77	8.02	7.12	7.52	6.75

# TABLE 2 GROUNDWATER PARAMETERS AND WATER DEPTH Leather-Rich, Inc. 1250 Corporate Drive Oconomowoc, Wisconsin

Well ID	MW-14	MW-15	MW-16	MW-17	PZ-1	PZ-2	PZ-3
Date	4/17/2019	4/17/2019	7/15/2019	7/15/2019	4/16/2019	4/17/2019	7/15/2019
Depth to Water (ft btoc)	15.38	15.9	15.47	16.22	16.77	16.89	16.37
DO (mg/L)	7.11	7.4	8.16	9.53	4.51	6.29	6.48
ORP (mV)	137	189	42.4	56.5	151	142	68.9
Conductivity (mS/cm)	1.11	0.989	1.043	0.997	1.08	1.37	1.231
Temperature (°C)	11.9	9.3	14	11	20.87	15.8	15
pH (s.u.)	7.56	7.8	7.34	7.2	7.51	7.34	7.22

## 1250 Corporate Center Drive Oconomowoc, Wisconsin

Downworker.	FC (/1)	DAL (/1)			MV	<i>I</i> -1				M	W-2	
Parameter	ES (ug/L)	PAL (ug/L)	9/24/1993	10/24/2017	3/15/2018	7/17/2018	4/19/2019	7/15/2019	3/15/2018	7/17/2018	4/19/2019	7/15/2019
Collect	ed by:		Giles	Giles	Giles	Giles	GZA	GZA	Giles	Giles	GZA	GZA
Bromodichloromethane	0.6	0.06	-	-	-	-	< 0.36	< 0.36	-	-	< 0.36	< 0.36
Chloroform	6	0.6	< 0.7	< 2.5	< 0.37	< 0.37	< 1.3	< 1.3	< 0.37	< 0.37	< 1.3	< 1.3
Tetrachloroethene	5	0.5	< 0.7	<u>36.2</u>	<u>190</u>	<u>16</u>	<u>135</u>	<u>45.3</u>	<u>45</u>	<u>35</u>	<u>40.0</u>	<u>28</u>
Trichloroethene	5	0.5	< 0.7	2.2	<u>26</u>	2.1	<u>21.7</u>	<u>6.9</u>	< 0.16	0.026 J	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	< 0.7	8.3	54	5.7	51.6	16.1	< 0.41	< 0.41	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	< 0.7	< 0.26	1.5	< 0.35	1.3	< 1.1	< 0.35	< 0.35	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	8000	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	22800	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	< 35.4	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	< 1.1	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	600 J	NA	NA	NA	NA

## 1250 Corporate Center Drive Oconomowoc, Wisconsin

Paramatan.	FC (/1)	DAL ((1)				MW-3						MW-4						MW-5			I	1W-5 DUP
Parameter	ES (ug/L)	PAL (ug/L)	3/	15/2019		7/17/2018	4	1/17/2019	3	3/15/2018		7/17/2018	4	/24/2019	3	3/15/2018	7	7/17/2018	4	/18/2019	4	/18/2019
Collected I	by:			Giles		Giles		GZA		Giles		Giles		GZA		Giles		Giles		GZA		GZA
Bromodichloromethane	0.6	0.06		-		-	<	0.36		-		-	<	0.36		-		-	<	0.36	<	0.36
Chloroform	6	0.6	<	0.37	<	0.37	<	1.3	<	0.37	<	0.37	<	1.3	<	0.37	<	0.37	<	1.3	<	1.3
Tetrachloroethene	5	0.5	<	0.37	<	0.37		0.81		0.61 J	<	0.37	<	0.33		1.6		1.6		0.99		1.0
Trichloroethene	5	0.5	<	0.16	<	0.16	<	0.26	<	0.16	<	0.16	<	0.26	<	0.16	<	0.16	<	0.26	<	0.26
cis-1,2-Dichloroethene	70	7	<	0.41	<	0.41	<	0.27	<	0.41	<	0.41	<	0.27	<	0.41	<	0.41	<	0.27	<	0.27
trans-1,2-Dichloroethene	100	20	<	0.35	<	0.35	<	1.1	<	0.35	<	0.35	<	1.1	<	0.35	<	0.35	<	1.1	<	1.1
Nitrate as N	10000	2000		NA		NA		NA		NA		NA		NA		NA		NA		NA	<u> </u>	NA
Sulfate	NS	NS		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
Iron, Dissolved	NS	NS		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
Manganese, Dissolved	300	60		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA
Total Organic Carbon	NS	NS		NA		NA		NA		NA		NA		NA		NA		NA		NA		NA

## 1250 Corporate Center Drive Oconomowoc, Wisconsin

	50 / (1)	DAL ( (1)		M	W-6			MW-7			MW-8	
Parameter	ES (ug/L)	PAL (ug/L)	3/15/2018	7/17/2018	4/16/2019	7/15/2019	3/15/2018	7/17/2018	4/16/2019	3/15/2018	7/17/2018	4/16/2019
Collected	by:		Giles	Giles	GZA	GZA	Giles	Giles	GZA	Giles	Giles	GZA
Bromodichloromethane	0.6	0.06	-	-	< 0.36	< 1.8	-	-	< 0.36	-	-	0.44
Chloroform	6	0.6	< 0.74	< 0.37	< 1.3	< 6.4	0.54 J	< 0.37	< 1.3	< 0.37	< 0.37	<u>8.8</u>
Tetrachloroethene	5	0.5	<u>760</u>	<u>620</u>	<u>939</u>	<u>636</u>	<u>180</u>	<u>170</u>	<u>204</u>	<u>120</u>	<u>63</u>	<u>61.9</u>
Trichloroethene	5	0.5	<u>170</u>	<u>190</u>	<u>194</u>	<u>76.8</u>	<u>18</u>	<u>34</u>	<u>29.8</u>	4.9	1.8	1.1
cis-1,2-Dichloroethene	70	7	<u>320</u>	<u>360</u>	<u>366</u>	<u>242</u>	36	<u>100</u>	<u>84.9</u>	5.6	2.7	2.1
trans-1,2-Dichloroethene	100	20	8.7	< 0.35	14.9	5.7 J	1.2	2.3	2.1	< 0.35	< 0.35	< 1.1
	_									_		
Nitrate as N	10000	2000	NA	NA	NA	6300	NA	NA	NA	NA	NA	NA
Sulfate	NS	NS	NA	NA	NA	20400	NA	NA	NA	NA	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	206	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	20.6	NA	NA	NA	NA	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	770 J	NA	NA	NA	NA	NA	NA

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1-DRAFT- GW results

## 1250 Corporate Center Drive Oconomowoc, Wisconsin

Daniel de la constant	FC ((1)	DAL ((1)	M	W-9	MW-10	MW-11	M	W-12	M	W-13	MW-14	MW-15
Parameter	ES (ug/L)	PAL (ug/L)	7/17/2018 4/17/2019		4/17/2019	4/17/2019	4/17/2019	7/15/2019	4/17/2019	7/15/2019	4/17/2019	4/17/2019
Collected	by:		Giles	GZA	GZA							
Bromodichloromethane	0.6	0.06	-	< 0.36	< 0.73	< 0.36	< 0.73	< 0.36	< 0.36	< 0.36	< 0.36	< 0.36
Chloroform	6	0.6	< 0.37	< 1.3	< 2.5	< 1.3	< 2.5	< 1.3	< 1.3	< 1.3	< 1.3	< 1.3
Tetrachloroethene	5	0.5	<u>400</u>	<u>363</u>	<u>177</u>	<u>266</u>	<u>97.3</u>	<u>49.5</u>	<u>167</u>	<u>98.8</u>	<u>10.7</u>	0.71
Trichloroethene	5	0.5	<u>110</u>	<u>78.3</u>	<u>24.5</u>	<u>34.1</u>	<u>13.1</u>	<u>5.1</u>	<u>22.5</u>	<u>8.4</u>	< 0.26	< 0.26
cis-1,2-Dichloroethene	70	7	<u>190</u>	<u>163</u>	41.5	44.9	25.2	7.3	45.4	17.9	< 0.27	< 0.27
trans-1,2-Dichloroethene	100	20	10	7.9	3.5	2.0	< 2.2	< 1.1	1.3	< 1.1	< 1.1	< 1.1
Nitrate as N	10000	2000	NA	NA	NA	NA	NA	8900	NA	8200	NA	NA
Sulfate	NS	NS	NA	NA	NA	NA	NA	23600	NA	24000	NA	NA
Iron, Dissolved	NS	NS	NA	NA	NA	NA	NA	59.4 J	NA	35.4	NA	NA
Manganese, Dissolved	300	60	NA	NA	NA	NA	NA	7.1	NA	2 J	NA	NA
Total Organic Carbon	NS	NS	NA	NA	NA	NA	NA	560 J	NA	780 J	NA	NA

## TABLE 3 GROUNDWATER ANALYTICAL RESULTS

## Leather-Rich, Inc.

## 1250 Corporate Center Drive

Oconomowoc, Wisconsin

	50 ( (1)	541 ( (1)		MW-16		MW-17		P	Z-1		F	Z-1 DUP
Parameter	ES (ug/L)	PAL (ug/L)	7	7/15/2019		7/15/2019		7/17/2018	4	1/16/2019	4,	/16/2019
Colle	ected by:	•		GZA		GZA		Giles		GZA		GZA
Bromodichloromethane	0.6	0.06	<	0.36	<	0.36		-	<	0.36	<	0.36
Chloroform	6	0.6	<	1.3	<	1.3	<	0.37	<	1.3	<	1.3
Tetrachloroethene	5	0.5		<u>6.6</u>		<u>187</u>	<	0.37		0.84		0.90
Trichloroethene	5	0.5		0.62 J		<u>17.7</u>		0.63 J	<	0.26	<	0.26
cis-1,2-Dichloroethene	70	7		1.4		38.2	<	0.41	<	0.27	<	0.27
trans-1,2-Dichloroethene	100	20	<	1.1	<	1.1	<	0.35	<	1.1	<	1.1
Nitrate as N	10000	2000		NA		NA		NA		NA		NA
Sulfate	NS	NS		NA		NA		NA		NA		NA
Iron, Dissolved	NS	NS		NA		NA		NA		NA		NA
Manganese, Dissolved	300	60		NA		NA		NA		NA		NA
Total Organic Carbon	NS	NS		NA		NA		NA		NA		NA

## TABLE 3 GROUNDWATER ANALYTICAL RESULTS

## Leather-Rich, Inc. 1250 Corporate Center Drive

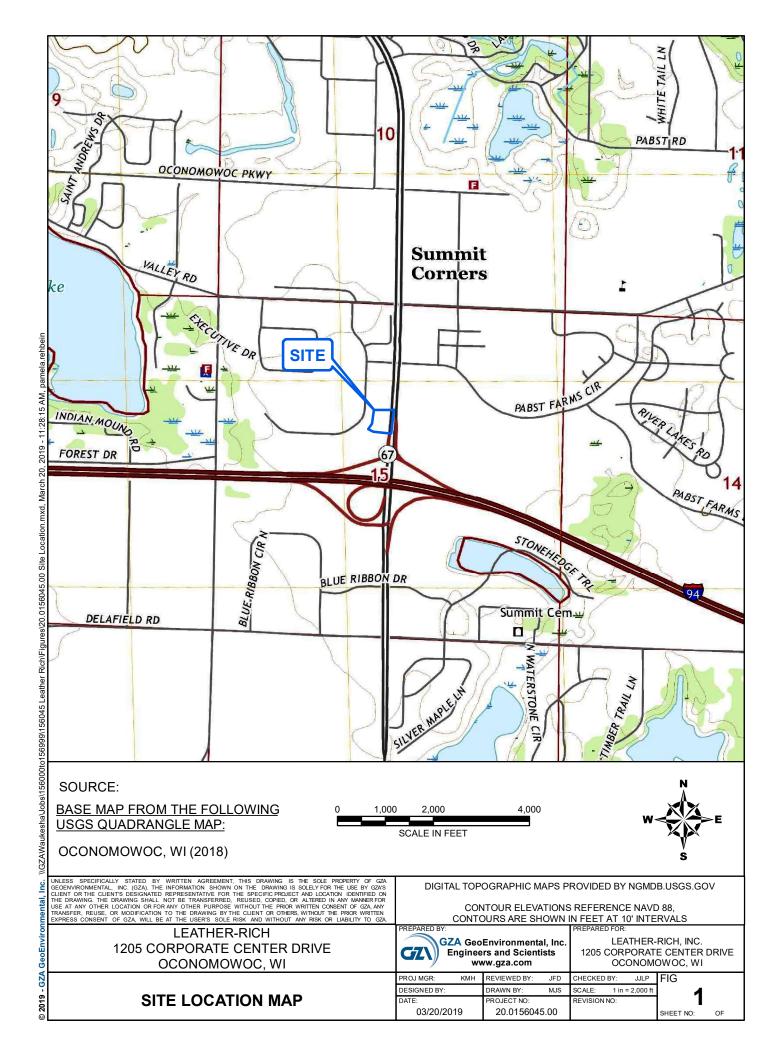
Parameter	FS ((1)	DAL (/1)		I	PZ-2			PZ-3	C	ontainment Area
Parameter	ES (ug/L)	PAL (ug/L)	7	/17/2018		4/17/2019		7/15/2019		4/17/2019
Coll	ected by:			Giles		GZA		GZA		GZA
Bromodichloromethane	0.6	0.06		-	<	0.36	<	0.36	<	3.6
Chloroform	6	0.6	<	0.37	<	1.3	<	1.3	<	12.7
Tetrachloroethene	5	0.5	<	0.37		3.0		<u>106</u>		<u>82.3</u>
Trichloroethene	5	0.5	<	0.16		0.37		2.4		<u>730</u>
cis-1,2-Dichloroethene	70	7	<	0.41	<	0.27		4.2		<u>1640</u>
trans-1,2-Dichloroethene	100	20	<	0.35	<	1.1	<	1.1		23.2
Nitrate as N	10000	2000		NA		NA		NA		NA
Sulfate	NS	NS		NA		NA		NA		NA
Iron, Dissolved	NS	NS		NA		NA		NA		NA
Manganese, Dissolved	300	60		NA		NA		NA		NA
Total Organic Carbon	NS	NS		NA		NA		NA		NA

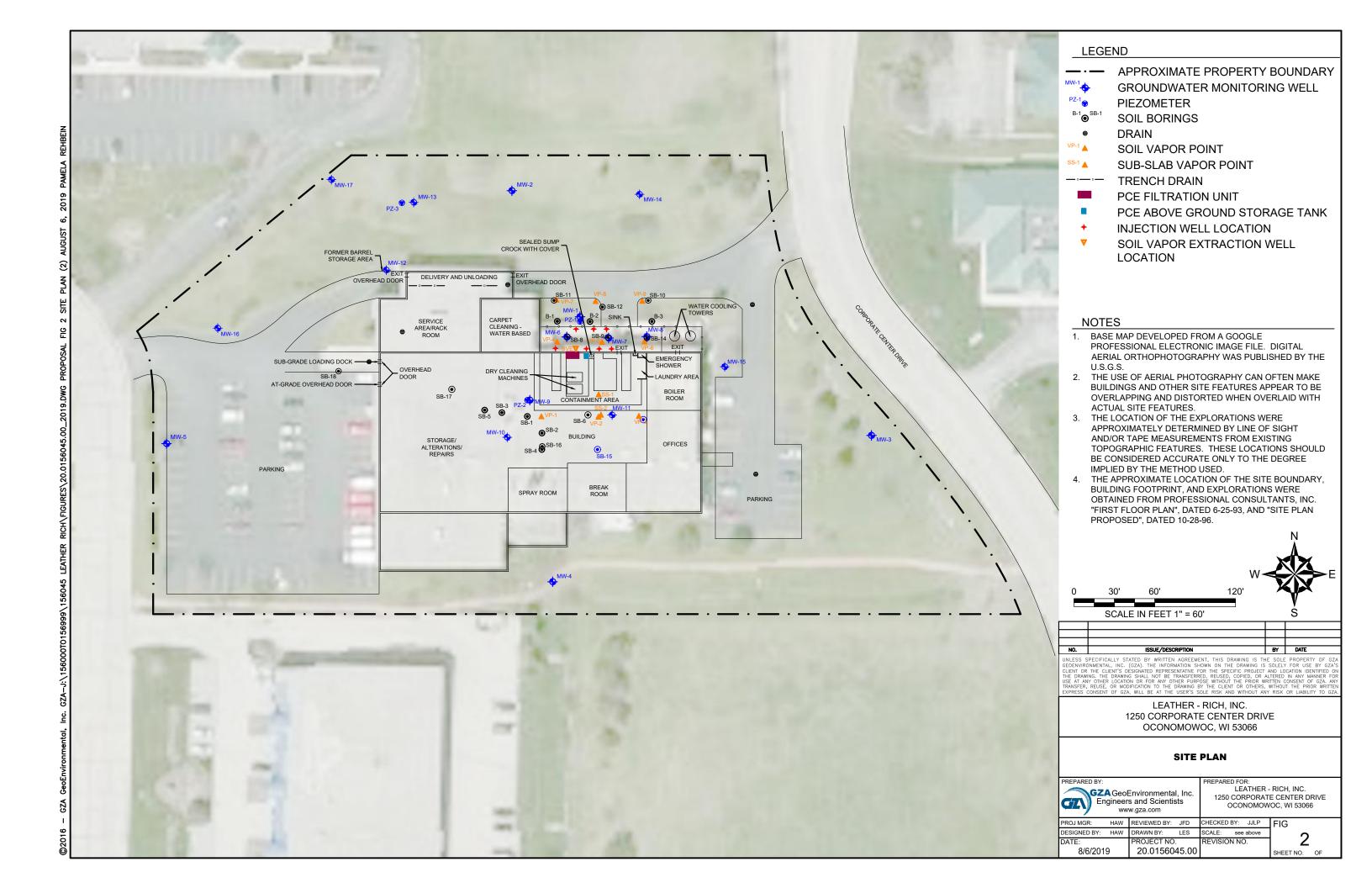
## **Notes:**

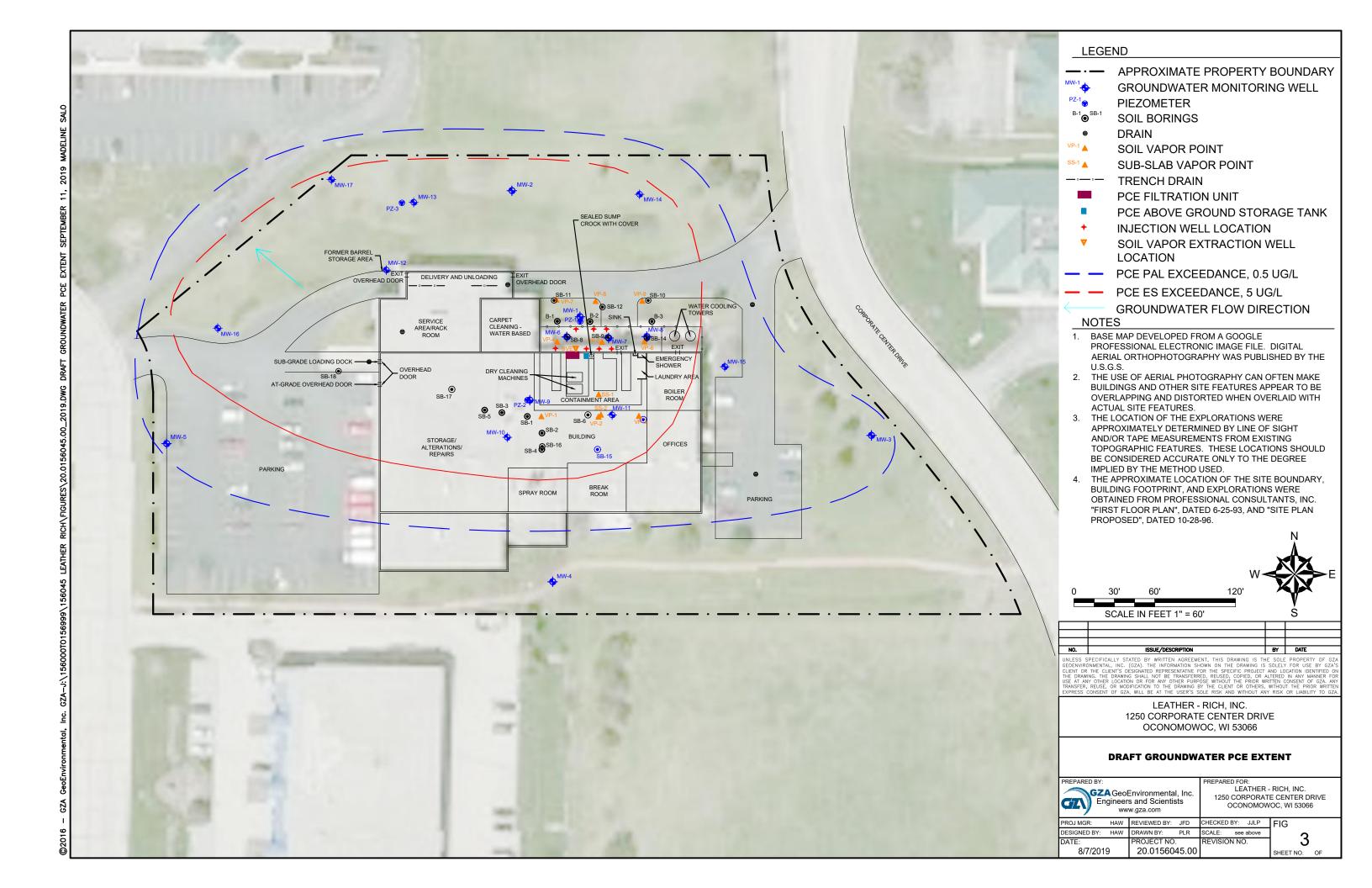
- 1. Samples were collected by GZA GeoEnvironmental, Inc. (GZA) and analyzed by PACE Analytical Lab, Inc. (PACE) of Green Bay, Wisconsin using WI GRO for GROs and USEPA Method 8260 for Volatile Organic Compounds
- 2. Results are presented in micrograms per liter ( $\mu$ g/l).
- 3. Results are compared to Wisconsin Administrative Code (WAC) Chapter NR 140 Enforcement Standards (ESs) and Preventive Action Limits (PALs). Underlined Bold Red font indicates the parameter was detected above the ES and Bold italicized font indicates the parameter was detected above the PAL.
- 4. "-" = The sample was not analyzed for the specified parameter.
- 5. Only results for compounds detected during laboratory analyses are presented.
- 6. J = Estimated value. The analyte was detected at a concentration between the limit of detection (LOD) and limit of quantification (LOQ).
- 7. "NA" = Not Analyzed
- 8. "NS" = No Standard available under WAC NR 140.



## **FIGURES**









## **APPENDIX A**

## **LIMITATIONS**



### **LIMITATIONS**

### Standard of Care

- 1. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
- 2. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
- 3. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

## **Subsurface Conditions**

- 4. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
- 5. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

## **Compliance with Codes and Regulations**

6. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.

## **Screening and Analytical Testing**

7. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.



- 8. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.
- 9. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

## **Interpretation of Data**

10. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

### **Additional Information**

11. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

## **Additional Services**

12. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.



## **APPENDIX B**

SOIL BORING LOGS, CONSTRUCTION FORMS, AND DEVELOPMENT FORMS

State of Wisconsin
Department of Natural Resources

Boring Number: MW-16 Soil Boring Log Information

aumyre	roject Na					License	/Pe	rmit/Mo	nitoring	Numb	er	E	Boring	Numb		
loring D	rilled D		er-Ric	th w chief (first, last) and Firm		Deta D	-:11:-	ng Okari -	vd.	Date 5	Seilli	Comel	ot out	Deiri		MW-16
irst Nam	niled By	Kapua	or cre	w chier (first, last) and Firm Last Name		Date Dr		ng Starte	xa	Date	Orilling		etea	Drill	ing iv	lethod
Firm O	n-site Ei	nvironr	nental	Services, Inc.				10-19			7-10					
M Uniqu	ue Well I	No.	1	DNR Well ID No.   Well Na	ame VIW-16	Final St	atic	:WaterL Fee		Surfa	ce Eleva	ation Feat.N	/ISL	Bor	ehole	Diameter inches
ocal Gri	id Origir	(e	stimate	ed:(X) or Boring Location		1 1 0#					Grid Lo					
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Facility I		<u>.                                    </u>		ounty	County Cod		-	Civil To				_1 & _	] 0	-		_1 ထ 1
				Waukesha	68				C	Conon	nowoc,					
Samp				,								Soil P	roperti	es	1	
Number and Type	&Length All. & &Recovered (in)	Blow Counts	Depth in Feet	Soil/Rock Descrip And Geologic Origi Each Major Ur	in For	828	_	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P200	RQD/ Comments
S-1 (0-5)	60/60		0	S-1: 0-0.25': Topsoil; brown, dry 0.25-1,25': Fat CLAY (CH); trace G medium-grained; brown, dry 1.5-2': Poorly-graded SAND (SP), f trace Gravel, fine, brown, dry 2-5': Fat CLAY (CH); some Gravel, medium-grained, brown, 2" pulveri pulverized concrete at bottom, dry	ine to coarse-grain	ined;	SP CH			See note 1						PID readi (ppm) 0-2: 3. 2-4: 0. 4-6: 9.
S-2 (5-10)	60/36		5	S-2: 5-10": Well-graded SAND (SW coarse-grained; with Gravel, fine to dry		tan, S	5VV			See note 2						6-8: 10 8-10: 16
S-3 10-15)	60/36		10	S-3: 10-11': Poorly-graded SAND (scoarse-grained; with Gravel, fine to dry 11-15': Well-graded SAND (SW), fi with Gravel, fine to medium; brown	medium; white/ ine to coarse-grai	tari,	3₽ 3W			See note 3						10-12: 3 12-14: 2 14-16: 1
S-4 15-20)	60/24		15	S-4: 15-20': Poorly-graded SAND ( coarse-grained; trace Gravel, fine to		ı, wet	§P			See note 4						16-18: 3 18-20: 2
hereby o	-	at the inf	20 formati	End of Boring at 20 feet bgs. Boring native soils and 3/8 bentonite chips on on this form is true and correct to			ge				ł.					
		$\mathcal{L}$						5	W	\						
his form	n is autho	rized by	Chapt	ters 281, 283, 289, 291, 292, 293, 29 of between \$10 and \$25,000, or im	95, and 299, Wi	s Stats. C	om	pleteion	of this fo	orm is m	nanatory	Failur	e to fil	e Lucad		

State of Wisconsin Department of Natural Resources Boring Number: MW-17 Soil Boring Log Information

	Deparation	or reaction of the	Coodi oco		Route to Watershed/Was	stewater 🗌	Waste Managma	nt 🗆					For	m 4400-12	2	Rev.	7-98
						adevelopment X	Other						Pag	ge _	1	of	1
11/2/201	Facility/F	roject N	ame					License/F	Permit/M	onitoring	Numb	er	E	Boring	Numb	er	
			Leath	er-Ric	h											1	MW-17
-	Boring D	rilled By	: Name	of crev	w chief (first, last) and	Firm		Date Dril	ling Star	ted	Date	Drilling	Compl	eted	Drill	ing M	lethod
	First Nan	Tony	Kapug	ļi .	Last Name			;	<b>7-1</b> 0-19		1	7-10	-19				
0	WI Uniq				Services, Inc. DNR Well ID No.	Well Nam	ne .	Final Stat	ic Water	Level	Surfa	ce Elev	ation		Bor	ehole	Diameter
	OUR STEEL	2/25/00	2008				N-17			eet			Feet N	/ISL		01/145-18	_inches
	Local Gr	d Origir	n	stimate	d:X️) or Boring Loca	tion 🖂	- 10 11-	Lat				Grid Lo					
					N,E extion <b>15</b> T <b>7N</b>		_/c_ /N_	Long _					Ecot [	] N			_ E Feet  W
	Facility I		<u> </u>		unty	_ N <u> 1/ L</u>	County Coo			own/Cit			_1 & _				_1000   11
				-10/12/	Waukesha		68					nowoc,	Wisco	nsin			
	Sam			1									Soil P	roperti	es		
		Length AII. & Recovered (in)	ts t	#	Soil/Ro	ck Description	on					e e					
	₽ e	A All	Blow Counts	Depth in Feet		logic Origin Major Unit			l <sub>o</sub>	E		Compressive Strength	e =				RQD/ Comments
,	Number and Type	ngth cove	×	tt.	Law	riviajor Otiit		nscs	Graphic	Well	PID/FID	engl	Moisture Content	Liquid	atic it	P200	) Q E
10.16	Z K	9/90 - 8/00	B		S-1:					35	룹	ರಹ	≥်ပိ	<u> </u>	Ē	2	88
707	S-1 (0-5)	00.00		0	0-0.25': Topsoil; brown, 0.25-3.75': Fat CLAY (0		nd fine to	OPS( CH			See note 1						PID readings (ppm):
77.7	(0-3)				medium-grained; little (	Gravel, fine to	medium; brov	vn,			liote i						0-2: 6.7
5					3.75-5': Well-graded SA			ined;									2-4: 7.7 4-6: 12.8
K-K-				-	with Gravel, fine to med	alum, brown, i	ury										
2					-			SW	444	3							
27 00	S-2	60/37		5	S-2: 5-7': Well-graded S	AND (SW), fi	neto			:	See note 2						6-8: 27.0 8-10: 13.3
0040	(5-10)			L " _	coarse-grained; with Gr dry	1.00		tan,		:	note 2						0-10. 13.3
0.0					7-7.5': Poorly-graded SA medium-grained; brown	n, dry				:							
Z C					7.5-10': Well-graded SA with Gravel, fine to med			ined; SP SW	here were no								
CAO								011		:							
2	1				1					:							40 40: 25 0
2	S-3	60/42		10	S-3: 10-11': Poorly-grad coarse-grained; tan, dry		), fine to	SP		-	See note 3						10-12: 25.0 12-14: 11.2
Ź	(10-15)				11-15': Well-graded SAI	ND (SW), fine	to coarse-grai	ned;		_	1.0100						14-16: 12,9
2115					with Gravel, fine to med	alum, brown, i	roox fragment	s, dry SV									
100										:							
3				-						:							
5	S-4 (15-20)	60/24		15	S-4: 15-20': Poorly-grad coarse-grained; with Gr			wet SP			See note 4						16-18: 11.3 18-20: 15.8
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This form is authorized by Chapters 281, 283 (289, 291, 292, 293, 295, and 299, Wis Stats. Complete on of this form is manatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not indended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent

Boring Number: PZ-3 Soil Boring Log Information

Leather-Rich Boring Drilled By, Name of crew chief (first, last) and Firm First Name From Yapugi Firm On-site Environmental Services, Inc.  Will Unique Will No.  Dist Plane N	acility/F	Project N	ame					Licenso	e/Pe	rmit/Mo	nitoring	Numb	er	E	Boring	Numb	per	
Control   Cont			Leat	her-Ric	ch													PZ-3
First   Dwitter   Dwitte	Boring D	Drilled By	: Nam	e of cre				Date D	rilli	ng Starte	ed	Date [	Drilling	Compl	eted	Drill	ing M	lethod
Wild   No.   DNR   Well   DNo.   Well   Name   Final Static Water Level   Surface Elevation   Borehole   Feet   Feet MSL	Firm O	Tony	Kapu	gi mentel					7-	11-19			7-11	-19				
Local Grid Origin   (estimated N)   or Boring Location	WI Unic	que Well	No.			Well Nan	ne	Final S	tatio	:Water I	_evel	Surfa	œ Elev	ation		Bor	ehole	Diameter
State Plane  N. T. E. S. T. T. N. T. T. E. S. T. T. N. T. T. L. Long  Feet S. S. T. T. N. T. T. E. S. T. T. N. T. T. E. Long  Feet S. S. T. T. N. T. T. E. S. T. T. N. T. T. T. T. T. N. T.		21022			134.) 8		Z-3	-	_	Fe	et		0:11			- :-		_inches
NW   1/4 of   NE   1/4 of   Section   15   T   T   N   R   1/1E   Long   Feet   S	State Pla	nd Ongir ane	ı 🗌 (	estimate	eca:⊠) or Boring Loo N,E		CC /NC	Lat_			_	11 5547						_ E
Sample   Sample   Soil/Rock Description   Soil/Rock	_NW	1/4 ofN	IE	1/4 of S	ection15, T _7			Long						_Feet[	] S			_Feet⊡ V
Sample   Solit/Rock Description   Solit/Rock	Facility	ID		Co	· · · · · · · · · · · · · · · · · · ·		* 1000000	le		Civil To				Misse	noln			
Solid   Soli	Sam	nole		ᆛ	vvaukesna		00					Conon	lowoc,			es		
S-1 (0-5)    - 0-0.5: Topsoil; brown, dry   - 0.5 its; Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to medium; brown, rock fragments, dry   - 1.5-5: Fat CLAY (CHI); little Sand, fine to medium; brown, rock fragments, dry   - 1.5-5: Fat CLAY (CHI); little Sand, fine to medium; brown, rock fragments, dry   - 1.5-5: Fat CLAY (CHI); little Sand, fine to coarse, fine to coarse grained; some Gravel, fine to coarse, rock and   - 1.5-5: Text CLAY (CHI); little Gravel from to coarse, rock and   - 2.2: 5-10: Well-graded SAND (SW), fine to coarse, rock and concrete fragments, white fan, dry   - 3.3: 10-15: Well-graded SAND (SW), fine to coarse, rock and concrete fragments, white fan, dry   - 3.3: 10-15: Well-graded SAND (SW), fine to coarse, rock and concrete fragments, white fan, dry   - 3.4: 15-20: Poorly-graded SAND (SP), fine to medium-grained; little Gravel from 15 to 16.5: fine to medium-grained; little Gravel from 15 to 16.5: fine to medium-grained; little Gravel from 15 to 16.5: fine to medium-grained; little Gravel from 15 to 16.5: fine to medium; with Gravel 16.5 to 20; fine to coarse, brown, rock fragments, dry from 15 to 16.5; wet from 18.5: t	Carr		"	- src	0.11/5	and December							4)		T			1
S-1 (0-5)    - 0-0.5: Topsoil; brown, dry   - 0.5 its; Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to medium; brown, rock fragments, dry   - 1.5-5: Fat CLAY (CHI); little Sand, fine to medium; brown, rock fragments, dry   - 1.5-5: Fat CLAY (CHI); little Sand, fine to medium; brown, rock fragments, dry   - 1.5-5: Fat CLAY (CHI); little Sand, fine to coarse, fine to coarse grained; some Gravel, fine to coarse, rock and   - 1.5-5: Text CLAY (CHI); little Gravel from to coarse, rock and   - 2.2: 5-10: Well-graded SAND (SW), fine to coarse, rock and concrete fragments, white fan, dry   - 3.3: 10-15: Well-graded SAND (SW), fine to coarse, rock and concrete fragments, white fan, dry   - 3.3: 10-15: Well-graded SAND (SW), fine to coarse, rock and concrete fragments, white fan, dry   - 3.4: 15-20: Poorly-graded SAND (SP), fine to medium-grained; little Gravel from 15 to 16.5: fine to medium-grained; little Gravel from 15 to 16.5: fine to medium-grained; little Gravel from 15 to 16.5: fine to medium-grained; little Gravel from 15 to 16.5: fine to medium; with Gravel 16.5 to 20; fine to coarse, brown, rock fragments, dry from 15 to 16.5; wet from 18.5: t	Number and Type	Length All. & Recovered (i	Blow Counts	Depth in Fee	And Ge Ea	ologic Origin	For	0	nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P200	RQD/ Comments
S-2 (5-10)  S-2 (5-10)  S-3 (10-15)  S-3 (10-15)  S-4 (15-20)  S-4 (15-20)  S-4 (15-20)  S-4 (15-20)  S-5 (10-14)  S-6 (15-20)  S-7 (10-14)  S-8 (10-15)  S-8 (10-15)  S-9 (10-15)  S-1 (10-15)  S-1 (10-15)  S-2 (10-15)  S-3 (10-15)  S-4 (15-20)  S-5 (10-15)  S-6 (10-15)  S-7 (10-15)  S-8 (10-15)  S-8 (10-15)  S-9 (10-15)  S-9 (10-15)  S-1 (10-15)  S-2 (10-15)  S-2 (10-15)  S-3 (10-15)  S-4 (15-20)  S-4 (15-20)  S-4 (15-20)  S-4 (15-20)  S-4 (15-20)  S-4 (15-20)  S-5 (10-15)  S-6 (10-15)  S-7 (10-15)  S-8 (10-15)  S-8 (10-15)  S-8 (10-15)  S-9 (10-15)  S-9 (10-15)  S-1 (10-15)  S-1 (10-15)  S-2 (10-15)  S-2 (10-15)  S-2 (10-15)  S-3 (10-15)  S-4 (15-20)  S-4 (15-20)  S-5 (10-15)  S-6 (10-15)  S-7 (10-15)  S-8 (10-15)  S-8 (10-15)  S-8 (10-15)  S-8 (10-15)  S-9 (10-15)  S-1 (10-15)  S-1 (10-15)  S-2 (10-15)  S-2 (10-15)  S-3 (10-15)  S-4 (15-20)  S-4 (15-20)  S-5 (10-15)  S-6 (10-15)  S-7 (10-15)  S-8 (10-15)  S-8 (10-15)  S-9 (10	S-1	60/42		0	0-0.5': Topsoil; brown		A (176. *)	OF	PSOII			See						PID readin
S-3 (10-15)  S-3 (10-15)  S-4 (15-20)  S-4 (15-20)  S-4 (15-20)  S-3 (0/45)  S-3 (0/45)  S-4 (15-20)  S-4 (15-20)  S-3 (10-15)  S-4 (15-20)  S-3 (10-15)  S-4 (15-20)  S-3 (10-15)  S-3 (10-15)  S-3 (10-15)  Well-graded SAND (SW), fine to coarse; rock and concrete fragments, white/ tan, dry  See note 3  S-4 (15-20)  S-6 (15-20)  S-6 (15-20)  S-7 (15-20)  S-8 (15-20)  S-8 (15-20)  S-9 (15-20)  S	(0-5)				coarse-grained; some rock fragments, dry 1.5-5': Fat CLAY (CH medium-grained; brow pulverized rock from	Gravel, fine to ); little Sand, fi vn, roots from 1.6' to 1.8', trac	medium; brown ne to 1.5' to 1.6', 3"	۱, ا				note 1						(ppm): 0-2: 4.0 2-4: 8.5 4-6: 11.4
S-4 (15-20)  S-5 (10-10)  S-6 (10-10)  S-7 (10-10)  S-7 (10-10)  S-8 (10-10)  S-9 (10-10)  S-1 (10-10)  S-1 (10-10)  S-2 (10-10)  S-2 (10-10)  S-3 (10-10)  S-4 (15-20)  S-4 (15-20)  S-6 (10-10)  S-7 (10-10)  S-7 (10-10)  S-8 (10-10)  S-9 (		60/48		5	coarse-grained; some	Gravel, fine to		d s	SW									6-8: 17. 8-10: 50.
(15-20) 15 medium-grained; little Gravel from 15' to 16.5', fine to medium; with Gravel 16.5' to 20', fine to coarse, brown, rock fragments, dry from 15' to 16.5', wet from 16.5' to	S-3 (10-15)	60/48		10	coarse-grained; some	Gravel, fine to	, fine to coarse; rock and	d										10-12: 64 12-14: 13 14-16: 7.
	S-4 (15-20)	60/45		15	medium-grained; little medium; with Gravel rock fragments, dry fr	Gravel from 1 16.5' to 20', fin	5' to 16.5', fine e to coarse, brov	wn,	SP									16-18: 16. 18-20: 42.
I hereby certify that the information on this form is true and correct to the best of my knowledge		ALTERNATION OF THE PARTY	at the in	formati	on on this form is true	and correct to t	he best of my	knowled	lge									20-22: 43.
Signature Firm	Signatur	е		٨			Firm				,		_					
(27.A)				/	$\overline{}$						(	27	P					
This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis Stats. Complete on of this form is manatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved.	This form	n is autho	rized b	y Chapt	ers 281, 283, 289, 291,	292, 293, 295	and 299, Wis	s Stats. C	Com	oleteion	of this fo	rm is m	anatory	Failur	e to file	9		

State of Wisconsin Department of Natural Resources

Routeto Watershed/Wastewater

Boring Number: PZ-3 Soil Boring Log Information Form4400-122 Rev. 7-98

Page \_\_\_2 of \_\_2

S-6 (25-30) 60/60 S-7: 30-32.5: Well-graded SAND (SW), fine to coarse; brown, wet SW	Sample										Soil P	roperti	ies		
S-6 (25-30)  S-6 (25-30)  S-7 (30-35)  S-7 (30-35)  S-7 (30-35)  S-7 (30-35)  S-8 (35-35)  S-7 (30-35)  S-8 (35-36)  S-9 (30-35)  S-9 (30-35)  S-9 (30-35)  S-1 (30-35)  S-1 (30-35)  S-2 (30-35)  S-3 (30-35)  S-3 (30-35)  S-4 (30-35)  S-5 (30-32.5) (30-32.5	l :	Recovered (in)	Blow Counts	Depth in Feet	And Geologic Origin For Each Major Unit	nscs	Graphic Log	Well Diagram	PID/FID	Compressive Strength	Moisture Content	Liquid Limit	Plastic Limit	P200	22-24-20 24-26: 98-6
(25-30) 80/60 25 coarse-grained; some Gravel, fine to coarse; brown, wet SW note 6  S-7: 30-32.5': Well-graded SAND (SW), fine to coarse-grained; some Gravel, fine to medium; brown, saturated from 31' to 32', wet 32.5-35': Poorly-graded SAND (SP), fine to medium-grained; trace Gravel, fine to medium; brown, saturated from 31' to 32', wet 32.5-35': Poorly-graded SAND (SP), fine to medium-grained; trace Gravel, fine to medium; brown,	(20-25)	738		20	medium-grained; trace Gravel, fine; brown, wet 21-22; Well-graded SAND (SW), fine to coarse-grained; little Gravel, fine to coarse; brown, wet 22-25; Poorly-graded SAND (SP), fine to coarse-grained;	1			note 5						24-26: 98.6
S-7 (30-35) 60/60 S-7: 30-32.5': Well-graded SAND (SW), fine to coarse-grained; some Gravef, fine to medium; brown, saturated from 31' to 32', wet 32.5-35': Poorty-graded SAND (SP), fine to medium-grained; trace Gravef, fine to medium; brown,		/60		25		SW									26-28: 73. 28-30: 34.
		/60		30	coarse-grained; some Gravel, fine to medium; brown, saturated from 31 to 32, wet 32,5-35: Poorly-graded SAND (SP), fine to medium-grained; trace Gravel, fine to medium; brown,	SP									30-32: 27.6 32-34: 8.4 34-35: 7.4

Waste Managment

GZA WDNR FORMAT 2 - GZADEPTH, GDT - 9/9/19 15:53 - JAGEOTECH PROJECTS/GINT PROJECT DATABASES/20.0156045.00 LEATHER-RICH (APRIL 2019), GPJ

	Watershed/Wastewater/ Remediation/Redevelopment	Waste Management	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Facility/Project Name	T. 10221 A CTILD		Well Name
Leather-Rich	ft	Nft. DE.	MW-16
Facility License, Permit or Monitoring No.	Local Grid Origin   (estima	ated:   or Well Location	Wis. Unique Well No. DNR Well ID No.
	Lat	Long.	
Facility ID	St. Plane ft. N	,ft. E. S/C/N	Date Well Installed 7/10/2019
268414850	Section Location of Waste/Son	TOP .	m m d d v v v v
Type of Well	NE 1/4 of NW 1/4 of Sec.	16.T.07 N.R. 17	Well Installed By: Name (first, last) and Firm
Well Code/_	Location of Well Relative to W	aste/Source   Gov. Lot Number	- lage hapigi
Distance from Waste/ Enf. Stds. Source ft. Apply	u □ Upgradient s □ d □ Downgradient n □	Not Known ————	On-Site Environmental
A. Protective pipe, top elevation	ft. MSL	1. Cap and lock?	Y Yes □ No
P Wall seeing top almostics	ft. MSL —	2. Protective cover	
		a. Inside diamete	
C. Land surface elevation	ft. MSL	b. Length:	\ ft.
D. Surface seal, bottom ft. MS	SL or ft.	c. Material:	Steel 150 04
12. USCS classification of soil near screen	1825000000000	d. Additional pro	Other D
	SW D SP D	If yes, describ	
	CL CH CH CH	JX / /	Bentonite X 30
Bedrock 🗆	\ \ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	3. Surface scal:	Concrete 0 01
13. Sieve analysis performed?	Yes 🗶 No		Other 🗆
14. Drilling method used: Rot	tary 🗆 50	4. Material between	well casing and protective pipe:
Hollow Stem Au	ıger <b>⊠</b> 41		Bentonite A 30
	ther 🗆 🧱	<b></b>	Other 🗆 🎎
45 D W - 5 11 - 1 W 17 D 2		5. Annular space se	
	Air 01 None 12 99	bLbs/gal i	mud weight Bentonite-sand slurry 35
2g 17.22 🗆 0 3 T	vone (2, 99	cLbs/gal 1	mud weight Bentonite slurry   31
16. Drilling additives used?	Yes ⊠(No		ite Bentonite-cement grout 50 3 volume added for any of the above
		KXX	A STATE OF THE PROPERTY OF THE
Describe	📓	f. How installed	Tremie pumped 🛘 02
17. Source of water (attach analysis, if requ	iired):		Gravity X 08
		6. Bentonite seal:	a. Bentonite granules  33
		b. □1/4 in. □	3/8 in. □1/2 in. Bentonite chips □ 32
E. Bentonite seal, top ft. MS.	LorQft	C	Other 🛘 🌉
77	. 9.	7 Fine sand materi	al: Manufacturer, product name & mesh size
F. Fine sand, top ft. MS	L or 2 II.		
G. Filter pack, top ft. MS.	Lor 9 th	b. Volume added	i ft <sup>3</sup>
o. The pack, up			ial: Manufacturer, product name & mesh size
H. Screen joint, top ft. MS	L or 1 Oft.	I Red Fl	and the second s
	177	b. Volume adde	
I. Well bottom ft. MS	Lor	9. Well casing:	Flush threaded PVC schedule 40 🔼 23
			Flush threaded PVC schedule 80 🔲 24
J. Filter pack, bottom ft. MSI	L or 10ft.		Other 🗆 🞎
	100	10. Screen material:	Schedule 40 PVC
K. Borehole, bottom ft. MSI	LorLQH.	a. Screen type:	Factory cut 🔼 11
L. Borehole, diameter 8.15 in.			Continuous slot 🔲 01
L. Borehole, diameter _ 1.12 O in.		\ ,	Other 🗆
M. O.D. well casing 2.315 in.		b. Manufacturer c. Slot size:	00\ in.
wi. O.D. well casing Fig. in.		d. Slotted length	( )
N. I.D. well casing _1.05 in.		11. Backfill material	<u> </u>
			Other 🗆
I hereby certify that the information on this	form is true and correct to the b	est of my knowledge.	
Signature	Firm	1	A.
	6.24	beoGnivironmento	U

	Watershed/Wastewater			MONITORING W Form 4400-113A	ELL CONSTRU Rev. 7-98	CTION
Facility/Project Name	Remediation/Redevelopment Local Grid Location of Well ft.	U Other		Well Name		
Leather-Rich	ft.	, ⊟ k.	ft. 🛮 E. W.	MI	W-17	
Facility License, Permit or Monitoring No.	Local Grid Origin (esti	imated:  ) or	Well Location	Wis. Unique Well		No.
The state of the s	Lat,					
Facility ID		-		Date Well Installed		
268414850	St. Planeft		It. E. S/C/N	<u> </u>	7110120	17
Type of Well	Section Location of Waste/S	Source	- WE	Well Installed By:		
Well Code /	<u>NE 1/4 of NW 1/4 of Se</u>	x, 10, T. 01	N, R. 1 / 1 W		mougi	III I III
Distance from Waste/ Enf. Stds.	-Location of Well Relative to	Waste/Source	Gov. Lot Number	1 - vuge	rapid,	_
Sourceft. Apply _	u ☐ Upgradient s d ☐ Downgradient n			On-site	Environme	
A. Protective pipe, top elevation	ft. MSL		. Cap and lock?		Y Yes □	No
P. MY 11	ft. MSL		2. Protective cover p	100 miles	1. T. C.	^
B. Well casing, top elevation	It MIGE		a. Inside diameter	:		8 in.
C. Land surface elevation	ft. MSL		b. Length:			<u> </u>
	water to	1000000	c. Material:		Steel 🔽	04
D. Surface seal, bottom ft. MS	SL or IL	<b>       </b>			Other	j 🧱
12. USCS classification of soil near screen	n:	Asses Contract	d. Additional pro	tection?	☐ Yes ☐	4-6-4-
GP GM GC GW S	SW 🗆 SP 🗆		If yes, describe	2:		
	сь 🗆 сн 🗆   🦼		-		Bentonite 🗵	<b>3</b> 0
Bedrock	.	<b>3 889</b> \ 3	5. Surface scal:		Concrete	_
13. Sieve analysis performed?	Yes X No				Other □	2000000
14. Drilling method used: Ro	, ,	M 880 A	Material between	well casing and prot	_	20.00
Hollow Stem As		M 889 7	r. Widdertar Detween	wen casing and pro-	Bentonite 🗷	1 30
	Other	8 <b>88</b>			Other 🗆	ACCOUNT.
	101		·	a Granulan/Ol	ipped Bentonite	
15. Drilling fiuid used: Water □ 0 2	Air □ 01		. Annular space sea			
	None 2 99			ud weight Bento		
				ud weight E		
16. Drilling additives used?	Yes DNo			te Bentoni		50
	·   18	8 88 °		volume added for a	The second second	
Describe		§ 🔉 1	f. How installed:		Tremie 🗆	
17. Source of water (attach analysis, if requ		8 BS		. 1	Tremie pumped 🗆	
,,, ·, ·, ·, ·, ·, ·, ·, ·, ·, ·, ·, ·, ·, ·				-	Gravity 🛭	
		<b>6</b>	. Bentonite seal:		itonite granules 🛚	100
	. 0.	a 📟 .	b. □1/4 in. □3	3/8 in. 1/2 in.	Bentonite chips	32
E. Bentonite seal, topft. MS	LorOff.		c		_ Other □	
	2		Fine sand materia	l: Manufacturer, pr	oduat name & me	ch cize
F. Fine sand, top ft. MS	L or Oft.		. I the sand materia	i, wandiactorer, pr	June Hame of mes	000000
	0		a			
G. Filter pack, top ft. MS	L or 1 ft.		b. Volume added	<u> </u>	$_{\rm ft}^3$	
	106	. 8	. Filter pack materi	al: Manufacturer, pr	oduct name & me	sh size
H. Screen joint, top ft. MS	L or 1 1. Oft.		a Red	Flint		
	00-	200	b. Volume added		ft <sup>3</sup>	444-3442
I. Well bottom ft. MS	LorU.SA.	9	. Well casing:	Flush threaded PV		23
			•	Flush threaded PV		•
J. Filter pack, bottom ft. MS	Lor 27.5a.	国人			Other 🗆	Secret.
		10	. Screen material:	Schedule 4	D PIC	
K. Borehole, bottom ft. MS	Lor 20th	10		JU KUDE -	Pastoni out M	
A. Borchole, Bottom	20		a. Screen type:	_	Factory cut 💢 Continuous slot 🗖	
L. Borehole, diameter _ 8.15 in.						(000000)
L. Borehole, diameter _ ½½ in.		/		11. (	_ Other $\square$	22
1276		/	b. Manufacturer	Monofle	<u> </u>	. 14
M. O.D. well casing $1.375$ in.		/	c. Slot size:		0!	0\ in.
1 06		\	d. Slotted length:			<u>10</u> ft.
N. I.D. well casing $2.05$ in.		11	. Backfill material (	below filter pack):	None 🗆	125,444.5
<u> </u>					Other 🗆	
I hereby certify that the information on this	form is true and correct to the	e best of my know	vledge.			
Signature	Firm	2 1 2	· ·	1		
	271	+ 1284-01	ivonmenta	1		

	Watershed/Wastewater	Waste Management	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Facility/Project Name	I ocal Grid Location of Well		Well Name
Leather-Rich	ft.	Nft. DE.	PZ-3
Facility License, Permit or Monitoring No.		ted: \( \) or Well Location \( \)	Wis Unique Well No.   DNR Well ID No.
,g	Lat, "I	ongor	
Facility ID 268414850	St. Planeft. N,	ft. E. S/C/N	Date Well Installed 7/11/2019
Type of Well	Section Location of Waste/Sour	TV C	
Well Code /	NE 1/4 of NW 1/4 of Sec.		lace mani
Distance from Waste/ Enf. Stds.	Location of Well Relative to W  u □ Upgradient s □	aste/Source Gov. Lot Number Sidegradient	23
Sourceft. Apply _		Not Known —	On-Site Environmental
	ft. MSL	1. Cap and lock? 2. Protective cover	Yes No
B. Well casing, top elevation = = =	ft. MSL	a. Inside diamete	
	6 MCI	b. Length:	
	ft. MSL	c. Material:	Steel 💢 04
D. Surface seal, bottom ft. MS	SLor ft.	· X	Other 🗆
12. USCS classification of soil near scree	en:	d. Additional pro	(879230)
GP □ GM □ GC □ GW □ S	SW □ SP □	If yes, describ	
	CL CH CH C	-J3 / /	Bentonite M 30
Bedrock	188	3. Surface scal:	Concrete □ 01
13. Sieve analysis performed?	Yes 🔼 No		Other 🗆
14. Drilling method used: Ro	otary 🗆 5 0	4 Material between	well casing and protective pipe:
Hollow Stem Au	1001		Bentonite 🖾 30
	Other 🗆 🔛		Other 🗆
	- 20	5. Annular space se	
15. Drilling fiuid used: Water □ 0 2	Air 🗆 01		nud weight Bentonite-sand slurry □ 35
Drilling Mud □ 0 3	None 🛛 99		nud weight Bentonite slurry 31
	\		ite Bentonite-cement grout 5 0
16. Drilling additives used?	Yes X No	Ft Ft	volume added for any of the above
<b>.</b>		f. How installed	
Describe			Tremie pumped 🛘 02
17. Source of water (attach analysis, if requ	aired):		Gravity 🕅 08
		6. Bentonite seal:	a. Bentonite granules  33
		b. □1/4 in. □	3/8 in. □ 1/2 in. Bentonite chips □ 3 2
E. Bentonite seal, topft, MS	SL or Oft.	/ c	Other 🗆 🎬
	, \	7 Fine and materia	al: Manufacturer, product name & mesh size
F. Fine sand, top ft. MS	SL or & ft.	/. Fille sand materia	ii. Wandiactoter, product name & mesii size
		7 / a	42
G. Filter pack, top ft. MS	iL or9 ft.	b. Volume added	
H. Screen joint, top ft. MS:	250-	land /	ial: Manufacturer, product name & mesh size
H. Screen joint, top ft. MS	L or	a Ked Fl	ON THE STATE OF TH
I. Well bottom ft. MS	1100	b. Volume added	
I. Well bottom ft. MS	L or 1 U II.	9. Well casing:	Flush threaded PVC schedule 40 🔯 23
J. Filter pack, bottom ft. MS	, III = 1		Flush threaded PVC schedule 80   24
J. Filter pack, bottom IL MIS	ror3011		Other 🗆 📜
K. Borehole, bottom ft. MS	T - 4De.	10. Screen material:	Schediste 40 PVC
K. Borenole, bottom ic MS	Fot 70111	a. Screen type:	Factory cut 🔼 11
L. Borehole, diameter _8.15 in.		<b>2</b>	Continuous slot 01
L. Borchote, diameter _ 2.2.2 in,		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	Mono-Flex
M. O.D. well casing 2.315 in.		b. Manufacturer c. Slot size:	0 <u>0\</u> in.
M. O.D. well casing 1.315 in.		c. Slot size: d. Slotted length	
N. I.D. well casing $2.05$ in.			
in. i.i. well casing _ L. \(\times\) in.		11. Backfill material	(below filter pack): None ☐ 14 Other ☐
I hereby certify that the information on this	form is true and correct to the hi	est of my knowledge	Outer in any
Signature 0	Firm	or or my knowledge.	
	DZA	beoEnvironmento	J
	11		

State of Wisconsin Department of Netural Resources Route to: Watershed/Waste	ewater/ Waste Mar	1000mm	MONITORING WELL CONSTRUCTIO Form 4400-113A Rev. 7-98
Remediation/Red	development Other ation of Well S.		
Facility/Project Name Local Grid Loc	ation of Well N.	ft. 🗆 E. W.	Well Name
Facility License, Permit or Monitoring No. Local Grid Orig	in 🔲 (estimated: 🔲 ) or	Well Location	Wis. Unique Well No. DNR Well ID No.
Lat	•		D. W. W. J. J.
	ft. N,	ft. E. S/C/N	Date Well Installed 7/11/2019
Section Location	n of Waste/Source	N. R. 17 5 W	Well Installed By: Name (first, last) and Fir
Well Cade (a) 100 1/4 of N	JW 1/4 of Sec. 15, T. 07		On-Site Environment
Distance from Waste/ Enf. Stds. Location of We	ll Relative to Waste/Source ent s ☐ Sidegradient adient n ☐ Not Known		Services, Inc.
A. Protective pipe, top elevation ft. MSL		1. Cap and lock?	V Yes □ No
The state of the s		2. Protective cover p	ipe:
B. Well casing, top elevation ft. MSL	THE	a. Inside diameter	
C. Land surface elevation ft. MSL		b. Length:	1 n.
D. Surface seal, bottom ft. MSL or f	- TOTAL TOTAL	c. Material:	Steel 🔯 04
		1	Other 🗆
12. USCS classification of soil near screen:   GP □ GM □ GC □ GW □ SW □ SP □	1 1 1 1	d. Additional prof	
GP GM GC GW SW SP SP SM SC ML MH CL CH CH		If yes, describe	
Bedrock □		3. Surface scal:	Bentonite 🔼 30 Concrete 🗆 01
13. Sieve analysis performed?			Other 🗆
14. Drilling method used: Rotary 5 0		4. Material between	well casing and protective pipe:
Hollow Stem Auger 141			Bentonite 🕱 30
Other 🗆 💥			Other 🗆 🧰
		5. Annular space sea	
15. Drilling fluid used: Water   0 2 Air   0 1		bLbs/gal m	ud weight Bentonite-sand slurry □ 35
Drilling Mud □ 03 None 🗓 99			ud weight Bentonite slurry D 31
16. Drilling additives used?			te Bentonite-cement grout ☐ 50
40.10			volume added for any of the above
Describe		f. How installed:	
17. Source of water (attach analysis, if required):			Tremie pumped 🔲 0 2
		6. Bentonite seal:	Gravity 🗖 08 a. Bentonite granules 🔲 33
	」 [28] [38]		3/8 in. $\Box$ 1/2 in. Bentonite chips $\Box$ 3 2
E. Bentonite seal, topft. MSL or0	L	C	Other 🗆 🚛
F. Fine sand, topft. MSL or <u>8</u> f		7. Fine sand material	: Manufacturer, product name & mesh size
9		a	
G. Filter pack, top ft. MSL or 9		b. Volume added	
H. Screen joint, top ft. MSL or <u>1</u> 0		8. Filter pack materia	al: Manufacturer, product name & mesh size
10		b. Volume added	ft <sup>3</sup>
I. Well bottom ft. MSL or $\mathcal{L} \mathcal{D}_f$		9. Well casing:	Flush threaded PVC schedule 40 💆 23
J. Filter pack, bottomft. MSL orlof			Flush threaded PVC schedule 80  24 Other
	1,4	O. Screen material:	Schedule 4D PUC
K. Borehole, bottom ft. MSL or $10^{-1}$		a. Screen type:	Factory cut 🔯 11
			Continuous slot   0 1
L. Borehole, diameter $-8.25$ in.			Other 🗆 🤍
M. O.D. well casing 2.375 in.		<ul><li>b. Manufacturer</li><li>c. Slot size:</li></ul>	Monorlex 0.01 in.
156	1	d. Slotted length:	/ <i>\(\)_\_</i> n.
N. I.D. well casing $2.05$ in.	11	I, Backfill material (	below filter pack): None ☐ 14 Other ☐
hereby certify that the information on this form is true and	correct to the best of my kno	wledge.	
	irm ( o )		\ \ \ =
	1274	DEDIVINO	rental. In

State of Wisconsin Department of Netural Resources Route to: Watershed/Wastewa	vater Waste Management MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Facility/Project Name Local Grid Location	velopment Other Well Name
leather-Rich -	n. S. n. E. Iny ction well #2
Facility License, Permit or Monitoring No. Local Grid Origin	☐ (estimated: ☐) or Well Location ☐ Wis. Unique Well No. DNR Well ID No.
Lat	Long or
Facility ID	ft. N,ft. E. S/C/N Date Well Installed 7/ \2/2019
Section Location of	of Waste/Source mm d d y y y y
	1/4 of Sec. 13, T. OI N. R. 1 W On Que Company
Location of Well I	Relative to waste/Source   Gov. Lot Number
The state of the s	fient n Not Known Services, Toc.
A. Protective pipe, top elevation ft. MSL	1. Cap and lock?   ☐ Yes ☐ No
6 MCY	2. Protective cover pipe:
B. Well casing, top elevation ft. MSL -	a. Inside diameter:8 in.
C. Land surface elevation ft. MSL	b. Length: 1 ft.
D. Surface seal, bottom ft. MSL or ft.	c. Material: Steel 50 04
12. USCS classification of soil near screen:	d. Additional protection?
GP □ GM □ GC □ GW □ SW □ SP □	d. Additional protection?
SM SC MLO MHO CL CHO	20 mm to M 30
Bedrock	3. Surface scal: Concrete $\square$ 01
13. Sieve analysis performed?	Other 🗆
14. Drilling method used: Rotary □ 50	4. Material between well casing and protective pipe:
Hollow Stem Auger 141	Bentonite 🔼 30
Other 🗆 🚐	Other 🗆 🏥
15. Drilling fiuid used: Water □ 0 2 Air □ 0 1	5. Annular space seal: a. Granular/Chipped Bentonite 🗖 33
Drilling Mud 103 None 1299	bLbs/gal mud weight Bentonite-sand slurry 35
Thomas 2003 Thomas 4000	cLbs/gal mud weight Bentonite slurry 31
16. Drilling additives used?	d% Bentonite Bentonite-cement grout □ 5 0  eFt <sup>3</sup> volume added for any of the above
	₩ 1 ₩ 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1 × 1
Describe	f. How installed: Tremie 🗆 01
17. Source of water (attach analysis, if required):	Gravity 💢 08
	6. Bentonite seal: a. Bentonite granules  33
N -	b. □1/4 in. □3/8 in. □1/2 in. Bentonite chips □ 3 2
E. Bentonite seal, topft. MSL orft.	Other 🗆 🎎
F. Fine sand, top ft. MSL or ft.	7. Fine sand material: Manufacturer, product name & mesh size
0	\[ \begin{align*}
G. Filter pack, top ft. MSL or ft.	
H. Screen joint, top ft. MSL or 10 ft.	8. Filter pack material: Manufacturer, product name & mesh size
	L Volume added \$13
I. Well bottom ft. MSL or 10 ft.	9. Well casing: Flush threaded PVC schedule 40 🛛 23
10	Flush threaded PVC schedule 80 \( \simeq 24
J. Filter pack, bottom ft. MSL or 100 ft	
K. Borehole, bottom ft. MSL or Uft.	10. Screen material: Schedule 40 RIC
	\ \ \( \tau_{1} \tau_{2} \tau_{2} \tau_{3} \tau_{4} \tau_{5} \tau_
L. Borehole, diameter 8.25 in.	Continuous slot  01
	b. Manufacturer MOOOFlex
M. O.D. well casing 1375 in.	c. Slot size: 0.01_in.
	d. Slotted length:
N. I.D. well casing $-\underline{\hat{\mathcal{L}}}\cdot\underline{\hat{\mathcal{D}}}$ in.	11. Backfill material (below filter pack): None 14
I have been self about 1 feet and	Other 🗆
I hereby certify that the information on this form is true and cor Signature	
Signature	" 67A beofinironmental In

	Watershed/Wastev		/ Waste Mana		MONITORING WELL Form 4400-113A	CONSTRU Rev. 7-98	JCTION
Facility/Project Name	Remediation/Rede Local Grid Locat	tion of Well	Other		Well Name		
Leather-Rich		tr	N. S		Injection	C# 115x	
Facility License, Permit or Monitoring No.	Local Grid Origin	(estima	ted: 🗆 ) or	Well Location	Wis. Unique Well No.	DNR Well I	D No.
	Lat	<b>'</b> "]	ong	or	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
Facility ID				ft. E. S/C/N	Date Well Installed 7	10.00	219
268414850	Section Location				<u>01</u> /	d d v v	7 T
Type of Well	NE1/4 of N			N. R. 17 18	Well Installed By: Nan	ne (first, last)	and Firm
Well Code/	Location of Well			Gov. Lot Number	On-Site F	nvironn	nental
Distance from Waste/ Enf. Stds.	u Upgradier		Sidegradient	Gov. Lot Number	0	_	
Sourceft. Apply	d Downgra		and the second s		Services	Loc	_
A. Protective pipe, top elevation	ft. MSL			Cap and lock?	1	Yes [	No
			2	Protective cover p	oipe:	^	_
B. Well casing, top elevation	ft. MSL	11-		a. Inside diameter			_8 in.
C. Land surface elevation	ft. MSL			b. Length:		-	_ <u>l</u> ft.
		STREET, ST	-3000000	c. Material:		Steel 1	04
D. Surface seal, bottom ft. MS	L or IL	Feet,	- 3			Other É	
12. USCS classification of soil near screen	1:	Jean't	Acelon	d. Additional pro	tection?	☐ Yes [	□ No
	SW 🗆 SP 🗆	/ FI	B/ /	If yes, describe	D:	-	
	T CH CH	- W	/ /	D. C		Bentonite	<b>X</b> 30
Bedrock □		™	<b>図</b> / 3	Surface seal:		Concrete I	□ 01
13. Sieve analysis performed?	Yes No	l 💹	<b>*</b>			Other [	
14. Drilling method used: Rot	ary □ 50		4.	Material between	well casing and protective	ve pipe:	· initia
Hollow Stem Au		∭	<b>333</b>			Bentonite	<b>X</b> 30
Oi	ther 🗆 📖	l <b>⋙</b>	<b>₩</b>			Other I	
		<b>₩</b>	5.	Annular space sea	al: a. Granular/Chippe	d Bentonite	<b>X</b> 33
The state of the s	Air 🗆 01	l ₩1		Lbs/gal m	ud weight Bentonite		
Drilling Mud □ 03 N	Tone 151 99	<b>88</b>	DSOL	Lbs/gal m	nud weight Bento	onite slurry	□ 31
16 10 711 1711 10 - 1		· 👹	₩ d	% Benton	ite Bentonite-co	ement grout	□ 50
16. Drilling additives used?	res 🛛 No		<b>*</b>		volume added for any o		
B 11		1881	₩ f	How installed:	201	Tremie [	□ <b>0</b> 1
Describe					Trem	uie pumped [	0 2
17. Source of water (attach analysis, if requ	ired):		<b>***</b>			Gravity 15	X 08
			6.	Bentonite seal:	a. Bentoni	ite granules [	33
		<b>889</b>		b. 1/4 in. 12	3/8 in. □ 1/2 in. Ben	tonite chips [	32
E. Bentonite seal, top ft. MSI	Lor0.ft.	. 💹		c		Other E	J 388
	0			F:	1. M f		1
F. Fine sand, top ft. MSl	Lor <u>8</u> ft.		₩ / , '	. rine sano materia	l: Manufacturer, produc	it name & me	2811 8126
	a	/ 13	3/	a			44
G. Filter pack, top ft. MSI	_or	/ 1	1	b. Volume added	ft <sup>3</sup>	3	
	11 (44)		8.	Filter pack materi	al: Manufacturer, produc	ct name & m	esh size
H. Screen joint, top ft. MSI	~ or <i>10</i> ft			a Ked Fl	int		
50 Accessment	0.			b. Volume added			
I. Well bottomft. MSI	_ orDft.		9.	Well casing:	Flush threaded PVC scl	heđule 40 🕽	23
	1.		<b>*</b>		Flush threaded PVC sci	nedule 80	<b>3</b> 24
J. Filter pack, bottom ft. MSI	_ or 10 ft.			-		Other [	□ 🔐
	10-		10.	Screen material:	Schedule 41	) PIC	
K. Borehole, bottom ft. MSI	_ or 10ft.	\ <b> </b>		a. Screen type:		Factory cut 🛚	
226			<b>3</b>		Conti	nuous slot	J 01
L. Borehole, diameter8.25 in.		4				Other [	J 💥
2026			/ 1	b. Manufacturer	MODOFIEX		
M. O.D. well casing _ 1355 in.				c. Slot size:			$\sum_{i=1}^{n}$ in.
1-6			1070	d. Slotted length:			_LLQ ft.
N. I.D. well casing $-1.05$ in.			11.	Backfill material (	below filter pack):	None	
						Other [	]
hereby certify that the information on this f			est of my know	ledge.			
Signature	Fi	rm ( -	70 1	C	. 1 1 7		
		U	UT be	DEUNILON	mental, Inc	_,	

State of Wisconsin Department of Natural Resources Route to: V	Vatershed/Wastewater	/ Waste Mana		MONITORING WELL CONSTRUCT Form 4400-113A Rev. 7-98	CTION
Facility/Project Name	Remediation/Redevelopment Local Grid Location of Wo			Well Name	- 10
Leather-Rich	f	L HS.		Invection well #4	
Facility License, Permit or Monitoring No.	Local Grid Origin (es	stimated: 🗆 ) or	Well Location	Wis. Unique Well No. DNR Well ID	No.
	Lat,	Long	Or		
Facility ID				Date Well Installed 7 . 7 . 0 c	
268414850	St. Planei Section Location of Waste,		II. E. S/C/N	$\frac{O}{m} \frac{1}{m} \frac{L}{d} \frac{1}{v} \frac{V}{v} \frac{V}{v}$	77
Type of Well			N. R. 17 5 W	Well Installed By: Name (first, last) at	nd Firm
Well Code 6 / 1)	NE 1/4 of NW 1/4 of S	Sec. 15, T. 01		On-Site Environm	
Distance from Waste/ Enf. Stds.	Location of Well Relative u Upgradient s	to Waste/Source	Gov. Lot Number	CAL CHAIRMAN	Silo
ACT AND ACT OF A PROPERTY AND A PROP	d Downgradient n			Services Inc.	
			Cap and lock?	Ŋ Yes □	No
A. Protective pipe, top elevation	ft. MSL		Protective cover p		110
B. Well casing, top elevation	ft. MSL		a. Inside diameter		Q:_
					Um.
C. Land surface elevation	ft. MSL		b. Length:	0. 1.34	111.
D. Surface seal, bottom ft. MS	Lor ft.		c. Material:	Steel M	
12. USCS classification of soil near screen	\$2400A2.34		1 4 1 11 11 11	Other 🗆	Sand Sand
		1 1 1	d. Additional prot		No
	W D SP D		If yes, describe	·	
Bedrock	Lu diu	Ø Ø \ `3.	Surface scal:	Bentonite 🕅	
	Con MI NT.			Concrete □	01
1	(es No		( -	Other 🗆	
14. Drilling method used: Rot		Ø Ø 4.	Material between	well casing and protective pipe:	
Hollow Stem Au		₩ ₩		Bentonite 🔼	
Ot Ot	her 🗆 🎆	<b>₩ ₩</b>		Other 🗆	-
		5.	Annular space sea	l: a. Granular/Chipped Bentonite 🗖	
	Air 🗆 01	₩ № ъ	Lbs/gal m	and weight Bentonite-sand slurry [	35
Drilling Mud □ 0 3 N	one \$199			ud weight Bentonite slurry	
16 Dell's and distance and 40				te Bentonite-cement grout 🗆	
16. Drilling additives used?	es No	2 2 e		volume added for any of the above	
B "		₩ f.		Tremie □	01
Describe		# # · · · ·		Tremie pumped	02
17. Source of water (attach analysis, if requi	red):	₩ ₩		Gravity X	
		6.	Bentonite seal:	a. Bentonite granules 🛘	
		<b># W</b>	b. □1/4 in. □3	3/8 in. □ 1/2 in. Bentonite chips □	32
E. Bentonite seal, top ft. MSI	or0ft.,	<b>X X X</b>	c	Other □	42.21.13
	. \	8 B / _			· ****
F. Fine sand, top ft. MSI	oraft.		Fine sand material	: Manufacturer, product name & mesi	h size
	. \		a		
G. Filter pack, top ft. MSI	or1 ft.\		b. Volume added	ft <sup>3</sup>	
NAME OF TAXABLE PARTY.	. \			al: Manufacturer, product name & mes	sh size
H. Screen joint, top ft. MSI	or		· Ped Fli	04	3888
• • • • • • • • • • • • • • • • • • • •		2012	h. Volume added	fr3	-
I. Well bottom ft. MSL	or That	The same of the sa	Well casing:	Flush threaded PVC schedule 40	23
				Flush threaded PVC schedule 80	24
J. Filter pack, bottomft. MSL	or 10 ft.			Other □	
		10	Company materials	Schedule 40 PVC	X4000265.1
K. Borehole, bottom ft. MSL	or DAL				
K. Botenbie, bottom in Mor			a. Screen type:	Factory cut 💆 Continuous slot 🗆	11
L. Borehole, diameter \$.15 in.					0 1
L. Borettote, diameter m.		\ .		Other 🗆	2022
M. O.D. well casing _1315 in.			Manufacturer		
M. O.D. well casing		<b>\</b>	Slot size:	0. $\nabla$	
N. I.D. well casing _ 105 in.		.,	l. Slotted length:		₩ ft.
N. I.D. well casing		11.	Backfill material (		
	Conclusion Report (Conclusion Conclusion Conc		to the second	Other 🗆	200
I hereby certify that the information on this f	- Inc	ne pest of my know	leage.		
Signature	Firm	127A 100	Enimo	mental Tor	

	Watershed/Wastewate Remediation/Redevelo		anagement	MONITORING WEL Form 4400-113A	L CONSTRU Rev. 7-98	UCTIO
Facility/Project Name	Local Grid Location			Well Name		
Leather-Rich		ft. 🖂 S:	ft. 🖁 🕏.	Inection u	well #5	)
Facility License, Permit or Monitoring No.	Local Grid Origin			Wis. Unique Well No.	DNR Well	ID No.
	Lat,	"Long	or			
Facility ID	St. Plane	ft. N,	ft. E. S/C/N	Date Well Installed	112/21	PIO
<u> </u>	Section Location of		- de	m m	d d y	V V Y
Type of Well Well Code 6	NEI/4 OF NWI	/4 of Sec. 15, T. D	7 N. R. 17 8 W	Well Installed By: Na		
Well Code/		lative to Waste/Source		MI-DUE E	NOTIVIE	rano
Sourceft. Apply	u Upgradient	s □ Sidegradie at n □ Not Know		Services	Inc.	
	ft. MSL —		1. Cap and lock?		Ŋ Yes	□ No
	ft. MSL /		-2. Protective cover p	oipe:	^	^
B. Well casing, top elevation	It. WISL		a. Inside diameter	r:	_	_ Sin.
C. Land surface elevation	ft. MSL		b. Length:			_ 1 ft.
D. Surface seal, bottom ft. MS	Lor ft.		c. Material:			04
12. USCS classification of soil near screen	X-2		d. Additional pro	tection?	Other Yes	4-1
	SW 🗆 SP 🗆	/ 11 11/ /		e:	103	110
SM SC ML MH C		/	1	Y	Bentonite	<b>M</b> 30
Bedrock			3. Surface scal:		Concrete	
	Yes No	₩ ₩ `	\		Other	
	ary □ 50		<ol> <li>Material between</li> </ol>	well casing and protect		- Alberta
Hollow Stem Au					Bentonite	
	ther 🗆 🎎	₩ ₩		- 4 100	Other	-344-1461
15. Drilling fluid used: Water □ 0 2	Air 🗆 01		5. Annular space sea			
	Tone 1 99			nud weight Bentonit		
	7			ud weight Bentonite-		
16. Drilling additives used?	res No			volume added for any		_ 10
-		<b>1881 1881</b>	f. How installed:		Tremie	<b>0</b> 01
Describe			2.		mie pumped	□ 02
17. Source of water (attach analysis, if requ	ired):				Gravity '	,
			6. Bentonite seal:		nite granules	
F. D	Lor Off.,		b. □1/4 in. □	3/8 in. □ 1/2 in. Be	-	
E. Bentonite seal, topft, MS	L or OIL.		c		Other	U 22
F. Fine sand, top ft MS	Lor & ft.\		7. Fine sand materia	l: Manufacturer, produ	ict name & m	esh size
	0		a			
G. Filter pack, top ft. MS	L or 1 ft. <		<ul> <li>b. Volume added</li> </ul>		13	
VI G	ha-		8. Filter pack materi	al: Manufacturer, produ	uct name & m	resh size
H. Screen joint, top ft. MSI	- or // It'		a Led Fl	TOI	<del>1</del> 3	
I. Well bottom ft. MSl	Lor WAL		<ul><li>b. Volume added</li><li>9. Well casing:</li></ul>	Flush threaded PVC se	•	X 23
			2	Flush threaded PVC se		24
J. Filter pack, bottom ft. MSI	_ or <u>W</u> ft.—	一個一		100000000000000000000000000000000000000	Other	174,000
	an		10. Screen material:	Schedule 4	DRIC	88
K. Borehole, bottom ft. MSI	_ or Wft. \		a. Screen type:		Factory cut	
L. Borehole, diameter \$15 in.				Con	tinuous slot	
L. Borehole, diameterin.			b. Manufacturer	MonoFlex	Other	
M. O.D. well casing _1315 in.		/	c. Slot size:	PIDODETEX	0. (	<u>O</u> ]_in.
0-6		/	d. Slotted length:		-	_LQ ft.
N. I.D. well casing105 in.			11. Backfill material (	(below filter pack):	None	
I hereby certify that the information on this	form is true and corre	ct to the heet of my be	nowledge		Other [	
Signature	Firm	to the best of my ki	in in leage.	Jav. 6		
		127A 1-	renfortion	mental In	2	

	Watershed/Wastew		Waste Mana	igement[]	MONITORING WELL Form 4400-113A	CONSTRU	UCTION
Facility/Project Name	Remediation/Rede Local Grid Locat		Other		Well Name		
Leather-Rich	Local Olio Local	ft.	Ŋ.	ft. 🖁 🕏.	Injection W	d# 119	
Facility License, Permit or Monitoring No.	Local Grid Origin			Well Location	Wis. Unique Well No.	DNR Well	ID No.
2	Lat,	"1,	ong •	l is		CCC) 110 (1.65232)	196 (B.C.C.)
Facility ID	1				Date Well Installed -	0 0	
268414850	St. Plane			n. e. s/C/N	_0_//_	d d v v	21A
Type of Well	Section Location			N. R. 17 8 W	Well Installed By: Nam	e (first, last)	and Firm
Well Code ()	NE1401 NI				On-Site for		
Distance from Waste/ Enf. Stds.	Location of Well u  Upgradien	Relative to Wa	ste/Source Sidegradient	Gov. Lot Number	2		Louite
Sourceft. Apply _	d Downgrad		•		Services,	Inc.	
A. Protective pipe, top elevation		arone in El		. Cap and lock?		Yes	□ No
7.7.				. Protective cover	pipe:	7	_
B. Well casing, top elevation	ft. MSL	_ 1⊢	10	a. Inside diameter	_		8 in.
C. Land surface elevation	ft. MSL	- 11		b. Length:			I ft.
		Section 1	20000000	c. Material:		Steel	04
D. Surface seal, bottom ft. MS	Lor ft		X			Other	6 🚃
12. USCS classification of soil near screen	1:	1	Assess	d. Additional pro	lection?	☐ Yes	□ No
GP □ GM □ GC □ GW □ S	W D SP D	1	3//	If yes, describe			
	T CH CH C	1	M / /			Bentonite	30
Bedrock		1888	SS \ 3	. Surface scal:		Concrete	
13. Sieve analysis performed? ☐ 3	Yes X No	<b>88</b>				Other	1414-11
14. Drilling method used: Rot	ary □ 50	<b>88</b>	₩ 4	Material between	well casing and protective	e pipe:	372.47
Hollow Stem Au		<b>888</b>			•	Bentonite	<b>Ì</b> \$ 30
	ther 🗆 📖 📗	<b>888</b>	₩			Other I	
		- 83	5	. Annular space sea	a. Granular/Chipped	d Bentonite	<b>Ø</b> 33
3	Air 🗆 01	₩ .		Lbs/gal m	and weight Bentomite-	sand slurry	□ 35
Drilling Mud □ 03 N	None 1 99				and weight Benton		
45 7 111 111 111 111		- I			ite Bentonite-ce		
16. Drilling additives used?	res 🗖 No		<b>88</b> 1		volume added for any of		
		1883	<b>₩</b> 1 7	How installed:		Tremie	□ <b>0</b> 1
Describe			SS -	•		ie pumped	0 0 2
17. Source of water (attach analysis, if requ	ired):		<b>88</b>			Gravity 1	<b>X</b> 08
			6	. Bentonite seal:	a. Bentonit	te granules	□ 33
		<b>1888</b>	₩	b. □1/4 in. □	3/8 in. □1/2 in. Bent	onite chips	□ 32
E. Bentonite seal, top ft. MSI	L or	< X 1	₩ /	c		Other I	
	. 0		<b>3</b> / <sub>2</sub>	Time and materia	l: Manufacturer, product		anh aisa
F. Fine sand, top ft. MSI	L or		<b>X</b> //	. Fille sand materia	i. Manufacturer, product	t manne oc m	2011 SIZE
	<b>Q</b>	13	7	a		_	44
G. Filter pack, top ft. MSI	L or 1 ft;			b. Volume added	and the same of th		
	. 15.0		∭ / <sup>8</sup>	. Filter pack materi	al: Manufacturer, produc	t name & m	iesh size
H. Screen joint, top ft. MSI	_ or <u>1</u> Q ft.	1		d-	int .	_	
	100			b. Volume added			
I. Well bottom ft. MSI	or		M	. Well casing:	Flush threaded PVC sch		23
T 771	LorOft.	ノ圏	1		Flush threaded PVC sch	NO. 100 TO 100 T	14
J. Filter pack, bottom ft. MSI	_ or			-	0 . 1	Other [	
T D	_ or 10n.				Schedule 40		, 55
K. Borehole, bottom ft. MSI	or			a. Screen type:		actory cut	
L. Borehole, diameter 8.75 in.			<b>3</b> 4,		Contin	nuous slot [	200000
L. Borehole, diameter			1		11 61 6	Other [	22
M. O.D. well casing _2375 in.			1	b. Manufacturer	MonoFlex	— o/	Ò∫_in.
M. O.D. well casingin.			1	<ul><li>c. Slot size:</li><li>d. Slotted length:</li></ul>		U. <u>(</u>	_∐_ft.
N. I.D. well casing						None [	
N. I.D. well casing $2.0^{\circ}$ in.			11	Backfill material (	nelow luter pack):	Other [	
I hereby certify that the information on this I	form is true and or	orrect to the bas	t of my know	ledoe		- Julion L	22322
Signature p	Test	rm i			20 20		
		77	A 1-101	fairma	mental, Inc		
			11 00	CINITOI)	11011011-11	,,,	

State of Wisconsin Department of Natural Resources Route to: Watershed/Waste	water Waste Management MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Remcdiation/Red Facility/Project Name   Local Grid Loca	
Leather-Rich	n. B. In Section well #7
Facility License, Permit or Monitoring No.  Local Grid Origin	n ☐ (estimated: ☐) or Well Location ☐ [Wis. Unique Well No.   DNR Well ID No.
Lat,°	Long or
Facility ID	ft. N, ft. E. S/C/N Date Well Installed 7/1/2/2019
L 6 N 4 1 4 0 0 Cection Location	n of Waste/Source / m m d d y y y y
Type of Well Well Code W   NE 1/4 of N	1/4 of Sec. 16, T. 07 N. R. 17 W Well Installed By: Name (first, last) and Firm
Location of Wel	Il Relative to Waste/Source Gov. Lot Number On-Site Environmento
PB	adient n Not Known Services, Inc.
A. Protective pipe, top elevation ft. MSL	1. Cap and lock? Yes No
B. Well casing, top elevation ft. MSL	2. Protective cover pipe:
b. Won casting, top elevation = = = = =	a. Inside diameter:
C. Land surface elevation ft. MSL	b. Length:  c. Material:  Steel 10 0 4
D. Surface seal, bottom ft. MSL or ft	Other G
12. USCS classification of soil near screen:	d. Additional protection?
GP GM GC GW SW SP G	If yes, describe:
SM SC ML MH CL CH Bedrock	3. Surface scal: Bentonite X 30
	Concrete 0 01
7	Other 🗆
14. Drilling method used: Rotary 5 0	4. Material between well casing and protective pipe:  Bentonite 🕱 30
Hollow Stem Auger 12 4 1 Other	Other 🗆
	5. Annular space seal; a. Granular/Chipped Bentonite 💢 33
15. Drilling fluid used: Water □ 0 2 Air □ 0 1	bLbs/gal mud weight Bentonite-sand slurry 35
Drilling Mud 🗆 03 None 🗖 99	cLbs/gal mud weight Bentonite slurry  31
16. Drilling additives used? ☐ Yes ☑ No	d % Bentonite Bentonite-cement grout 🗆 50
To Dining account to account	eFt 3 volume added for any of the above
Describe	f. How installed: Tremie 0 1
17. Source of water (attach analysis, if required):	Tremie pumped □ 02 Gravity 💆 08
	6. Bentonite seal: a. Bentonite granules 33
	b. □1/4 in. □3/8 in. □1/2 in. Bentonite chips □ 32
E. Bentonite seal, topft. MSL orOff	COther 🗆 🎆
F. Fine sand, top ft. MSL or & ft	7. Fine sand material: Manufacturer, product name & mesh size
G. Filter pack, top ft. MSL or 9 ft	b. Volume added ft <sup>3</sup>
	8 Filter pack material. Manufacturer product name & mesh size
H. Screen joint, top ft. MSL or 10 ft	a. <u>Eth</u>
I. Well bottom ft. MSL or Dft	b. Volume added ft <sup>3</sup>
I. Well bottom ft. MSL or Off	TO ENGLY 1
J. Filter pack, bottom ft. MSL or 10ft	Flush threaded PVC schedule 80 24 Other D
	10 Sargan materials & class of the 115 RM
K. Borehole, bottom ft. MSL or Dft	a. Screen type: Factory cut 🛭 11
	Continuous slot 🗆 01
L. Borehole, diameter\$.25 <sub>in.</sub>	Other 🗆 💹
M. O.D. well casing 2.375 in.	b. Manufacturer Monoplex
	c. Slot size:  d. Slotted length:  0. 01_ in.  ft.
N. I.D. well casing 2.05 in.	11. Backfill material (below filter pack): None 1 14
All.	Other 🗆 🎎
I hereby certify that the information on this form is true and c	
Signature	irm 127A Lenforinormedal Tor

State of Wisconsin Department of Netural Resources Route to: V	Vatershed/Wastewate	er □ . Was	ste Management	MONITORING WELL CONST	
None to.	Remediation/Redevel	opment Oth	er	Form 4400-113A Rev. 7-9	<del></del>
Facility/Project Name	Local Grid Location	to Well H.	ft. 🗆 E.	Well Name	
Facility License, Permit or Monitoring No.	Local Grid Origin	(estimated:	or Well Location □	Wis. Unique Well No. DNR W	ell ID No.
Facility ID	Lat	Long.	or	Date Well Installed 7/	
268414850			ft. E. S/C/N	Date wen instance 7/ _ / / v	2019
Type of Well	Section Location of NE 1/4 of NW		CO7 N.R. 17 18	Well Installed By: Name (first, la	ast) and Firm
Well Code/_ Distance from Waste/   Enf. Stds.	Location of Well Re	lative to Waste/S	ource Gov. Lot Number	On-Site Enviror	nnella
Distance from Waste/ Enf. Stds. Sourceft. Apply _	u □ Upgradient d □ Downgradien	s □ Sideg nt n □ NotB	-	Services, Inc	P)
A. Protective pipe, top elevation			1. Cap and lock?		es 🗆 No
B. Well casing, top elevation = - =	ft. MSL -	<b>+</b>  □ ®	2. Protective cover p	-	Q .
S I			a. Inside diameter b. Length:	:	Om.
	ft. MSL		c. Material:	Stee	1 10 04
D. Surface seal, bottom ft. MS	1 10				er 6
12. USCS classification of soil near screen		X X	d. Additional pro		es 🗆 No
GP GM GC GW S SM SC ML MH G	SW   SP	THE THE	If yes, describe	B	. Ne ne
Bedrock 🗆			3. Surface scal:	Bentoni Concre	<u>-</u>
13. Sieve analysis performed?	Yes MANO		1		er 🗆 💮
14. Drilling method used: Rot	ary □ 50		4. Material between	well casing and protective pipe:	344,443
Hollow Stem Au	200,700	₩ ₩		Bentoni	
Oi	ther 🗆 🚃	₩ ₩			er 🗆 🚆
15. Drilling fluid used: Water □ 0 2	Air □ 01		5. Annular space sea	a. Granular/Chipped Bentoni	
	Tone 1 99	<b>SS SS</b>	bLbs/gal m	and weight Bentonite-sand slun and weight Bentonite slum	ry □ 31
				ite Bentonite-cement gro	
16. Drilling additives used?	res 🛛 No			volume added for any of the abor	
Describe			f. How installed:		
17. Source of water (attach analysis, if requ				Tremie pumpe	~ -
			6. Bentonite seal:	Gravit a. Bentonite granuk	
				3/8 in. $\Box$ 1/2 in. Bentonite chi	
E. Bentonite seal, topft. MSI	Lor0ft		/ c	Othe	
F. Fine sand, top ft. MSI	Lor		7. Fine sand materia	l: Manufacturer, product name &	mesh size
	0		/ a		44
G. Filter pack, top ft. MSI	L or ft. <		b. Volume added		
H. Screen joint, top ft. MSI	150-		8. Filter pack materi	al: Manufacturer, product name &	District
H. Screen joint, top ft. MSI	2 OF <u>1</u> Q II.		a. Volume added	ft <sup>3</sup>	
I. Well bottomft. MSI	_ or <u>  \ \</u> ft		9. Well casing:	Flush threaded PVC schedule 40	,
J. Filter pack, bottom ft. MSI	140-	一個人		Flush threaded PVC schedule 80	
- 1			10. Screen material:	Schedule 40 RIC	
K. Borehole, bottom ft. MSI	_ or <u>14</u> ft		a. Screen type:	Factory cu	at 💢 11
L. Borehole, diameter \$ 75 in.			R	Continuous slo	er 🗆 🔐
11 6		,	b. Manufacturer	MODOFIEX	
M. O.D. well casing $-45_{in}$			c. Slot size: d. Slotted length:		0. <u>0</u> ] _ in. [] ft.
N. I.D. well casing			11. Backfill material		ne
500-049 (307)				•	ет 🗆 🌉
I hereby certify that the information on this i	1000	ect to the best of r	ny knowledge.		
Signature	Firm	6ZA	beoEnviron	mental, Inc	

# MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Waster	water	Waste Management
Remediation/Rede	evelopment	Other
Facility/Project Name	County Name	Well Name
Facility License, Permit or Monitoring Number	Wash	NW-16
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number  DNR Well ID Number  ————
1. Can this well be purged dry?	s 🗹 No	Before Development After Development  11. Depth to Water
surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other  3. Time spent developing well  4. Depth of well (from top of well casisng)  5. Inside diameter of well  6. Volume of water in filter pack and well casing  7. Volume of water removed from well  8. Volume of water added (if any)  9. Source of water added	61 42 62 70 80 61 60 10 61 60 10 61 60 10 61 60 10 61 60 10 61 60 10 61 60 10 61 60 10 61 60 60 60 60 60 60 60 60 60 60	11. Depth to Water (from top of well casing)  Date  b. 0.7/11/2019 mm/d/2019 mm/d/d/y y y y mm/m/d/d/y y y y  Time  c. 11: 20 pm. 12: 10 pm.  12. Sediment in well 0. 0 inches 0. 0 inches bottom  13. Water clarity  Clear 10 Clear 20 Turbid 25 (Describe)  Turbid 215 Turbid 25 (Describe)  Day b gray,  Fill in if drilling fluids were used and well is at solid waste facility:  14. Total suspended mg/l mg/l  15. COD mg/l mg/l  16. Well developed by: Name (first, last) and Firm  First Name: Mady Last Name: Salo  Firm: WA beaconomectal
17. Additional comments on development:		THE CON OCCUPATION
Name and Address of Facility Contact/Owner/Responsible First Name: Chery Last Name: Chew Facility/Firm: Leather Rich Inc. Street: 1250 Conparate Center Dr.		I hereby certify that the above information is true and correct to the best of my knowledge.  Signature:  Print Name: Maddy Salo
City/State/Time Or Manual M. T. F.S.	71.10	Firm: (27A (200 Environmenta)

# MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater	/	Waste Management			
Remediation/Redevelo	-	Other	INT U M		
	unty Name	01	Well Name	MID-1	17
	Washe	Wis. Unique Well Nu	<u> </u>		Il ID Number
Pacinty License, Permit or Monitoring Number	unty Code	wis. Onique well No	umber 	DINK WE	II ID Number
2. Well development method surged with bailer and bailed	✓ No	well casing)  Date  Time  12. Sediment in well bottom	a 1 6.  b 7 / 1 1 c. 1 2 : 3 9	$ \begin{array}{c c} \hline                                    $	After Development $16.03 ft$ $9.07/11/2019$ $y m m d d y y y y$ $2.15 pm$ $p.m$ $0.0 inches$
3. Time spent developing well  4. Depth of well (from top of well casisng)  5. Inside diameter of well  6. Volume of water in filter pack and well casing  7. Volume of water removed from well  8. Volume of water added (if any)  9. Source of water added NA	gal.	solids 15. COD 16. Well developed by	y: Name (first, la	and well is a  mg/l  mg/l  asst) and Firm	mg/l
10. Analysis performed on water added?  Yes (If yes, attach results)	√2 No	First Name: Mad	sections		e: Salv ental
17. Additional comments on development: Tubbing became plugged with tubing was whoff and de		wel at 1:2 ment resur	LI PM . T ned at	1:60 1:60	ast inch of IPM.
Name and Address of Facility Contact/Owner/Responsible Part First Name:  Last Name: Name:	ty	I hereby certify that of my knowledge.	t the above infe	ormation is	s true and correct to the best
Facility/Firm: <u>Leather Rich</u> , Inc.		Signature:		>	
Street: 1250 Corporate Center Dr. City/State/Zip: Oconomous C, WI 5306	ا ما	Print Name: M	addy t beoch	Salo	imental
	- 1				

State of Wisconsin Department of Natural Resources

# MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater	Waste Management
Remediation/Redevelopment	Other
Facility/Project Name   County Name	Well Name
Facility License, Permit or Monitoring Number County Code	esha PZ-3
Facility License, Permit or Monitoring Number   County Code	Wis. Unique Well Number   DNR Well ID Number
80	
/	
1. Can this well be purged dry? ☐ Yes ☑ No	Before Development After Development
	11. Depth to Water
2. Well development method	(from top of a. 16.21 ft. 19 ft.
surged with bailer and bailed \( \square 41	well casing)
surged with bailer and pumped   6 1	
surged with block and bailed \( \square 42	Date b. $\frac{0.7}{m}$ / $\frac{1}{d}$ / $\frac{2}{y}$ / $\frac{0.7}{y}$ / $\frac{1}{y}$ / $\frac{1}{y}$ / $\frac{1}{y}$ / $\frac{2}{y}$ / $\frac{0.1}{y}$
surged with block and pumped $\Box$ 62	mm ddyyyy mm ddyyy
surged with block, bailed and pumped $\Box$ 70	Time $c. 2: 40 $ $p.m. 4: 04 $ $p.m.$
compressed air	Time $c. \underline{L}: \underline{\underline{\underline{1}}} \underline{\underline{1}} \underline{\underline{\underline{1}}} \underline{\underline{1}} \underline{\underline{\underline{1}}} \underline{\underline{\underline{1}}} \underline{\underline{\underline{1}}} \underline{\underline{\underline{1}}} \underline{\underline{\underline{1}}} \underline{\underline{1}} \underline{1}} \underline{\underline{1}} \underline{\underline{1}} \underline{\underline{1}} \underline{\underline{1}} \underline{\underline{1}} \underline{\underline{1}} \underline{\underline{1}} \underline{$
bailed only	10 00
pumped only	12. Sediment in well
pumped slowly	bottom
Other	13. Water clarity Clear 10 Clear 120
0.1	Turbid \ 15 Turbid \ 25
3. Time spent developing well	(Describe) (Describe)
4. Depth of well (from top of well casising) _ 3 6. 8 ft.	Dark gray
4. Depth of well (from top of well casisng) ft.	
5. Inside diameter of well 2 0 5 in.	
5. Inside diameter of well $\underline{\underline{L}} \cdot \underline{\underline{O}} \cdot \underline{\underline{O}}$ in.	
6 X-1	
6. Volume of water in filter pack and well casing 3. 5 gal.	
-	Fill in if drilling fluids were used and well is at solid waste facility:
7. Volume of water removed from well	Fin in it orning fluids were used and well is at solid waste facility.
7. Volume of water removed from wen	14. Total suspended mg/l mg/l
8. Volume of water added (if any) O_ O_ gal.	solids
c. Volunic of water added (it ally)	Solids
9. Source of water added NA	15. COD mg/l mg/l
7. Source of Water added	
	16. Well developed by: Name (first, last) and Firm
10. Analysis performed on water added?	First Name: Maddy Last Name: Salo
(If yes, attach results)	Last Name: 5000
. ,	Firm: 62A beconvironmental
17. Additional comments on development:	
A STATE OF THE PARTY OF THE PAR	K

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature:
Print Name: Maddy Sato
Firm: <u>62A</u> beoEnvironmental



# APPENDIX C LABORATORY ANALYTICAL REPORTS





July 24, 2019

Heidi Woelfel GZA 20900 Swenson Drive Suite 150 Waukesha, WI 53186

RE: Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

#### Dear Heidi Woelfel:

Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2019. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Christopher Hyska

Chushpher Hyska

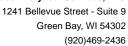
christopher.hyska@pacelabs.com

(920)469-2436

**Project Manager** 

Enclosures







#### **CERTIFICATIONS**

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

#### **Green Bay Certification IDs**

1241 Bellevue Street, Green Bay, WI 54302 Florida/NELAP Certification #: E87948 Illinois Certification #: 200050 Kentucky UST Certification #: 82 Louisiana Certification #: 04168 Minnesota Certification #: 055-999-334 New York Certification #: 12064

North Dakota Certification #: R-150

Virginia VELAP ID: 460263

South Carolina Certification #: 83006001 Texas Certification #: T104704529-14-1 Wisconsin Certification #: 405132750 Wisconsin DATCP Certification #: 105-444 USDA Soil Permit #: P330-16-00157 Federal Fish & Wildlife Permit #: LE51774A-0

(920)469-2436



## **SAMPLE SUMMARY**

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40191289001	MW-16	Water	07/15/19 08:15	07/16/19 11:00
40191289002	MW-17	Water	07/15/19 09:15	07/16/19 11:00
40191289003	PZ-3	Water	07/15/19 10:00	07/16/19 11:00
40191289004	MW-13	Water	07/15/19 10:55	07/16/19 11:00
40191289005	MW-12	Water	07/15/19 11:45	07/16/19 11:00
40191289006	MW-2	Water	07/15/19 12:45	07/16/19 11:00
40191289007	MW-1	Water	07/15/19 13:40	07/16/19 11:00
40191289008	MW-6	Water	07/15/19 15:15	07/16/19 11:00
40191289009	TRIP	Water	07/15/19 10:05	07/16/19 11:00



## **SAMPLE ANALYTE COUNT**

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40191289001	MW-16	EPA 8260	SMT	64	PASI-G
40191289002	MW-17	EPA 8260	SMT	64	PASI-G
40191289003	PZ-3	EPA 8260	SMT	64	PASI-G
40191289004	MW-13	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289005	MW-12	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289006	MW-2	EPA 8260	SMT	64	PASI-G
40191289007	MW-1	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289008	MW-6	EPA 6010	TXW	2	PASI-G
		EPA 8260	SMT	64	PASI-G
		EPA 300.0	HMB	2	PASI-G
		SM 5310C	TJJ	1	PASI-G
40191289009	TRIP	EPA 8260	SMT	64	PASI-G



## **SUMMARY OF DETECTION**

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Lab Sample ID	Client Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
0191289001	MW-16					
EPA 8260	Tetrachloroethene	6.6	ug/L	1.1	07/17/19 12:33	
EPA 8260	Trichloroethene	0.62J	ug/L	1.0	07/17/19 12:33	
EPA 8260	cis-1,2-Dichloroethene	1.4	ug/L	1.0	07/17/19 12:33	
0191289002	MW-17					
EPA 8260	Tetrachloroethene	187	ug/L	1.1	07/17/19 12:52	
EPA 8260	Trichloroethene	17.7	ug/L	1.0	07/17/19 12:52	
EPA 8260	cis-1,2-Dichloroethene	38.2	ug/L	1.0	07/17/19 12:52	
0191289003	PZ-3					
EPA 8260	Tetrachloroethene	106	ug/L	1.1	07/17/19 13:12	
EPA 8260	Trichloroethene	2.4	ug/L	1.0	07/17/19 13:12	
EPA 8260	cis-1,2-Dichloroethene	4.2	ug/L	1.0	07/17/19 13:12	
0191289004	MW-13					
EPA 6010	Manganese, Dissolved	2.0J	ug/L	5.0	07/24/19 08:12	
EPA 8260	Tetrachloroethene	98.8	ug/L	1.1	07/17/19 15:48	
EPA 8260	Trichloroethene	8.4	ug/L	1.0	07/17/19 15:48	
EPA 8260	cis-1,2-Dichloroethene	17.9	ug/L	1.0	07/17/19 15:48	
EPA 300.0	Nitrate as N	8.2	mg/L	1.1	07/17/19 11:45	H5,M0
EPA 300.0	Sulfate	24.2	mg/L	3.0	07/16/19 20:37	
SM 5310C	Total Organic Carbon	0.78J	mg/L	0.84	07/19/19 13:53	
0191289005	MW-12					
EPA 6010	Iron, Dissolved	59.4J	ug/L	118	07/24/19 08:19	
EPA 6010	Manganese, Dissolved	7.1	ug/L	5.0	07/24/19 08:19	
EPA 8260	Tetrachloroethene	49.5	ug/L	1.1	07/18/19 10:43	
EPA 8260	Trichloroethene	5.1	ug/L	1.0	07/18/19 10:43	
EPA 8260	cis-1,2-Dichloroethene	7.3	ug/L	1.0	07/18/19 10:43	
EPA 300.0	Nitrate as N	8.9	mg/L	1.1	07/17/19 12:24	H5
EPA 300.0	Sulfate	23.6	mg/L	3.0	07/16/19 21:17	
SM 5310C	Total Organic Carbon	0.56J	mg/L	0.84	07/19/19 14:14	
0191289006	MW-2	00.0	//	4.4	07/47/40 40 07	
EPA 8260	Tetrachloroethene	28.0	ug/L	1.1	07/17/19 16:07	
0191289007	MW-1	45.0			07/47/40 40 60	
EPA 8260	Tetrachloroethene	45.3	ug/L		07/17/19 16:26	
EPA 8260	Trichloroethene	6.9 16.1	ug/L		07/17/19 16:26	
EPA 8260 EPA 300.0	cis-1,2-Dichloroethene Nitrate as N	16.1 8.0	ug/L		07/17/19 16:26 07/17/19 12:37	
EPA 300.0 EPA 300.0	Sulfate	8.0 22.8	mg/L	1.1 3.0	07/16/19 12:37	
SM 5310C	Total Organic Carbon	0.60J	mg/L mg/L		07/19/19 21:30	
0191289008	MW-6	0.003	mg/∟	0.04	01/10/10 14.00	
EPA 6010	Iron, Dissolved	206	ug/L	118	07/24/19 08:24	
EPA 6010 EPA 6010	Manganese, Dissolved	20.6	ug/L ug/L		07/24/19 08:24	
EPA 8260	Tetrachloroethene	636	ug/L ug/L	5.4		
	Trichloroethene	76.8	ug/L ug/L	5.0	07/18/19 11:02	
EPA 8260						

## **REPORT OF LABORATORY ANALYSIS**

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(920)469-2436



## **SUMMARY OF DETECTION**

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
40191289008	MW-6	<u> </u>		<u> </u>		
EPA 8260	trans-1,2-Dichloroethene	5.7J	ug/L	18.2	07/18/19 11:02	
EPA 300.0	Nitrate as N	6.3	mg/L	1.1	07/17/19 12:50	
EPA 300.0	Sulfate	20.4	mg/L	3.0	07/16/19 21:43	
SM 5310C	Total Organic Carbon	0.77J	mg/L	0.84	07/19/19 15:16	



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: MW-16 Lab ID: 40191289001 Collected: 07/15/19 08:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical	Method: EPA	A 8260						
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 12:33	630-20-6	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		07/17/19 12:33	71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 12:33	79-34-5	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		07/17/19 12:33	79-00-5	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 12:33	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		07/17/19 12:33	75-35-4	
,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		07/17/19 12:33	563-58-6	
,2,3-Trichlorobenzene	< 0.63	ug/L	5.0	0.63	1		07/17/19 12:33	87-61-6	
,2,3-Trichloropropane	< 0.59	ug/L	5.0	0.59	1		07/17/19 12:33	96-18-4	
,2,4-Trichlorobenzene	< 0.95	ug/L	5.0	0.95	1		07/17/19 12:33	120-82-1	
,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		07/17/19 12:33	95-63-6	
,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		07/17/19 12:33		
,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		07/17/19 12:33		
,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 12:33		
,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 12:33		
,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		07/17/19 12:33		
,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		07/17/19 12:33		
,3-Dichlorobenzene	< 0.63	ug/L	2.1	0.63	1		07/17/19 12:33		
,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		07/17/19 12:33		
,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		07/17/19 12:33		
,4-Dichloropropane	<2.3	ug/L ug/L	7.6	2.3	1		07/17/19 12:33		
-Chlorotoluene	<0.93	_	7.0 5.0	0.93	1		07/17/19 12:33		
-Chlorotoluene	<0.93 <0.76	ug/L	2.5	0.93	1		07/17/19 12:33		
	<0.76 <0.25	ug/L	1.0	0.76	1		07/17/19 12:33		
Benzene		ug/L							
Bromobenzene	<0.24	ug/L	1.0	0.24	1		07/17/19 12:33		
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		07/17/19 12:33		
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		07/17/19 12:33		
Bromoform	<4.0	ug/L	13.2	4.0	1		07/17/19 12:33		
Bromomethane	<0.97	ug/L	5.0	0.97	1		07/17/19 12:33		
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		07/17/19 12:33		
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 12:33		
Chloroethane	<1.3	ug/L	5.0	1.3	1		07/17/19 12:33		
Chloroform	<1.3	ug/L	5.0	1.3	1		07/17/19 12:33		
Chloromethane	<2.2	ug/L	7.3	2.2	1		07/17/19 12:33		
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		07/17/19 12:33	_	
Dibromomethane	<0.94	ug/L	3.1	0.94	1		07/17/19 12:33		
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		07/17/19 12:33	75-71-8	
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		07/17/19 12:33	108-20-3	
thylbenzene	<0.22	ug/L	1.0	0.22	1		07/17/19 12:33		
lexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		07/17/19 12:33		
sopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		07/17/19 12:33		
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		07/17/19 12:33	1634-04-4	
lethylene Chloride	<0.58	ug/L	5.0	0.58	1		07/17/19 12:33		
Naphthalene	<1.2	ug/L	5.0	1.2	1		07/17/19 12:33	91-20-3	
Styrene	<0.47	ug/L	1.6	0.47	1		07/17/19 12:33	100-42-5	
Tetrachloroethene	6.6	ug/L	1.1	0.33	1		07/17/19 12:33	127-18-4	



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: MW-16	Lab ID: 40191289001		Collected	Collected: 07/15/19 08:15			7/16/19 11:00 Ma	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 8	260						
Toluene	<0.17	ug/L	5.0	0.17	1		07/17/19 12:33	108-88-3	
Trichloroethene	0.62J	ug/L	1.0	0.26	1		07/17/19 12:33	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		07/17/19 12:33	75-69-4	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		07/17/19 12:33	75-01-4	
cis-1,2-Dichloroethene	1.4	ug/L	1.0	0.27	1		07/17/19 12:33	156-59-2	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		07/17/19 12:33	10061-01-5	
m&p-Xylene	< 0.47	ug/L	2.0	0.47	1		07/17/19 12:33	179601-23-1	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 12:33	104-51-8	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		07/17/19 12:33		
o-Xylene	<0.26	ug/L	1.0	0.26	1		07/17/19 12:33		
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		07/17/19 12:33		
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		07/17/19 12:33		
tert-Butylbenzene	<0.30	ug/L ug/L	1.0	0.30	1		07/17/19 12:33		
trans-1,2-Dichloroethene	<1.1	ug/L ug/L	3.6	1.1	1		07/17/19 12:33		
trans-1,3-Dichloropropene	<4.4	-	14.6	4.4	1		07/17/19 12:33		
Surrogates	<4.4	ug/L	14.0	4.4	1		01/11/19 12.33	10061-02-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		07/17/19 12:33	460-00-4	
Dibromofluoromethane (S)	118	%	70-130		1		07/17/19 12:33		
Toluene-d8 (S)	105	%	70-130		1		07/17/19 12:33		
Totalito de (e)	100	70	70 100		•		07717710 12.00	200. 20 0	
Sample: MW-17	Lab ID:	40191289002	Collected	d: 07/15/19	09:15	Received: 07	7/16/19 11:00 Ma	atrix: Water	
Sample: MW-17 Parameters	Lab ID:	<b>40191289002</b> Units	Collected	d: 07/15/19	09:15 DF	Received: 07	7/16/19 11:00 Ma	cAS No.	Qua
•	Results		LOQ						Qua
Parameters 8260 MSV	Results  Analytical	Units	LOQ	LOD	DF		Analyzed	CAS No.	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane	Results  Analytical  <0.27	Units — — — — — — — — — — — — — — — — — — —	LOQ 260	LOD 0.27	DF 1		Analyzed 07/17/19 12:52	CAS No. 630-20-6	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	Analytical <0.27 <0.24	Units — — — — — — — — — — — — — — — — — — —	LOQ 260 1.0 1.0	0.27 0.24	DF 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52	CAS No. 630-20-6 71-55-6	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	Analytical <0.27 <0.24 <0.28	Units — — — — — — — — — — — — — — — — — — —	LOQ 260 1.0 1.0 1.0	0.27 0.24 0.28	DF 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No. 630-20-6 71-55-6 79-34-5	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane	Analytical <0.27 <0.24 <0.28 <0.55	Units — — — — — — — — — — — — — — — — — — —	LOQ 260 1.0 1.0 1.0 5.0	0.27 0.24 0.28 0.55	DF 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No. 630-20-6 71-55-6 79-34-5 79-00-5	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane	Analytical <0.27 <0.24 <0.28 <0.55 <0.27	Units — — — — — — — — — — — — — — — — — — —	LOQ 260 1.0 1.0 1.0 5.0 1.0	0.27 0.24 0.28 0.55 0.27	DF  1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene	Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24	Units — — — — — — — — — — — — — — — — — — —	LOQ 260 1.0 1.0 1.0 5.0 1.0	0.27 0.24 0.28 0.55 0.27 0.24	DF 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No. 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene	Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.55	Units — — — — — — — — — — — — — — — — — — —	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54	DF 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.63	Units  Method: EPA 8:  ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.0 1.8 5.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54	DF 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.0 1.8 5.0 5.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59	DF 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.54 <0.63 <0.59 <0.95	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.0 1.8 5.0 5.0 5.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59	DF 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.59 <0.54 <0.63 <0.59 <0.95 <0.84	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 2.8	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 5.0 5.0 5.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84 1.8	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB)	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8 <0.83	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 2.8 5.9 2.8	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84 1.8	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene	Results  Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8 <0.83 <0.71	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 2.8 5.9 2.8 2.4	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84 1.8 0.83 0.71	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4 95-50-1	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene 1,2-Dichlorobenzene 1,2-Dichloroethane	Results  Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8 <0.83 <0.71 <0.28	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 2.8 5.9 2.8 2.4 1.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84 1.8 0.83 0.71	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4 95-50-1 107-06-2	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8 <0.83 <0.71 <0.28 <0.28	Units  Units  Ug/L  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 2.8 5.9 2.8 2.4 1.0 1.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84 1.8 0.83 0.71 0.28	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4 95-50-1 107-06-2 78-87-5	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene 1,2-Dichlorobenzene 1,2-Dichloroethane	Results  Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8 <0.83 <0.71 <0.28	Units  Units  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 2.8 5.9 2.8 2.4 1.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84 1.8 0.83 0.71	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4 95-50-1 107-06-2 78-87-5	Qua
Parameters  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichloropropane 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene 1,2-Dichloroethane 1,2-Dichloropropane	Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8 <0.83 <0.71 <0.28 <0.28	Units  Units  Ug/L  Ug/L	LOQ 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 2.8 5.9 2.8 2.4 1.0 1.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84 1.8 0.83 0.71 0.28	DF  1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Analyzed  07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52 07/17/19 12:52	CAS No.  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4 95-50-1 107-06-2 78-87-5 108-67-8	Qua



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: MW-17 Lab ID: 40191289002 Collected: 07/15/19 09:15 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qua
3260 MSV	Analytical	Method: EPA	A 8260						
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		07/17/19 12:52	106-46-7	
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		07/17/19 12:52	594-20-7	
2-Chlorotoluene	< 0.93	ug/L	5.0	0.93	1		07/17/19 12:52	95-49-8	
-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		07/17/19 12:52	106-43-4	
Benzene	<0.25	ug/L	1.0	0.25	1		07/17/19 12:52	71-43-2	
Bromobenzene	<0.24	ug/L	1.0	0.24	1		07/17/19 12:52	108-86-1	
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		07/17/19 12:52	74-97-5	
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		07/17/19 12:52	75-27-4	
Bromoform	<4.0	ug/L	13.2	4.0	1		07/17/19 12:52	75-25-2	
Bromomethane	<0.97	ug/L	5.0	0.97	1		07/17/19 12:52	74-83-9	
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		07/17/19 12:52	56-23-5	
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 12:52		
Chloroethane	<1.3	ug/L	5.0	1.3	1		07/17/19 12:52		
Chloroform	<1.3	ug/L	5.0	1.3	1		07/17/19 12:52		
Chloromethane	<2.2	ug/L	7.3	2.2	1		07/17/19 12:52		
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		07/17/19 12:52		
Dibromomethane	<0.94	ug/L	3.1	0.94	1		07/17/19 12:52	_	
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		07/17/19 12:52		
Diisopropyl ether	<1.9	ug/L	6.3	1.9	1		07/17/19 12:52		
thylbenzene	<0.22	ug/L	1.0	0.22	1		07/17/19 12:52		
lexachloro-1,3-butadiene	<1.2	ug/L ug/L	5.0	1.2	1		07/17/19 12:52		
sopropylbenzene (Cumene)	<0.39	_	5.0 5.0	0.39	1		07/17/19 12:52		
	<0.39 <1.2	ug/L	4.2	1.2	1		07/17/19 12:52		
lethyl-tert-butyl ether	<0.58	ug/L	4.2 5.0	0.58	1		07/17/19 12:52		
Methylene Chloride		ug/L			1				
laphthalene	<1.2	ug/L	5.0	1.2			07/17/19 12:52		
Styrene	<0.47	ug/L	1.6	0.47	1		07/17/19 12:52		
etrachloroethene	187	ug/L	1.1	0.33	1		07/17/19 12:52		
oluene	<0.17	ug/L	5.0	0.17	1		07/17/19 12:52		
richloroethene	17.7	ug/L	1.0	0.26	1		07/17/19 12:52		
richlorofluoromethane	<0.21	ug/L	1.0	0.21	1		07/17/19 12:52		
'inyl chloride	<0.17	ug/L	1.0	0.17	1		07/17/19 12:52		
is-1,2-Dichloroethene	38.2	ug/L	1.0	0.27	1		07/17/19 12:52		
is-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		07/17/19 12:52		
n&p-Xylene	<0.47	ug/L	2.0	0.47	1		07/17/19 12:52		
-Butylbenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 12:52		
-Propylbenzene	<0.81	ug/L	5.0	0.81	1		07/17/19 12:52		
-Xylene	<0.26	ug/L	1.0	0.26	1		07/17/19 12:52		
-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		07/17/19 12:52		
ec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		07/17/19 12:52		
ert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		07/17/19 12:52		
rans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		07/17/19 12:52		
rans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		07/17/19 12:52	10061-02-6	
Surrogates									
I-Bromofluorobenzene (S)	95	%	70-130		1		07/17/19 12:52		
Dibromofluoromethane (S)	121	%	70-130		1		07/17/19 12:52		
Toluene-d8 (S)	100	%	70-130		1		07/17/19 12:52	2037-26-5	



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: PZ-3 Lab ID: 40191289003 Collected: 07/15/19 10:00 Received: 07/16/19 11:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qua
8260 MSV	Analytical	Method: EPA	A 8260						
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 13:12	630-20-6	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		07/17/19 13:12	71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 13:12	79-34-5	
,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		07/17/19 13:12	79-00-5	
,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 13:12	75-34-3	
,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		07/17/19 13:12	75-35-4	
,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		07/17/19 13:12	563-58-6	
,2,3-Trichlorobenzene	< 0.63	ug/L	5.0	0.63	1		07/17/19 13:12	87-61-6	
,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		07/17/19 13:12	96-18-4	
,2,4-Trichlorobenzene	< 0.95	ug/L	5.0	0.95	1		07/17/19 13:12	120-82-1	
,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		07/17/19 13:12	95-63-6	
,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		07/17/19 13:12		
,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		07/17/19 13:12		
,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 13:12		
,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 13:12		
,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		07/17/19 13:12		
,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		07/17/19 13:12		
,3-Dichlorobenzene	< 0.63	ug/L	2.1	0.63	1		07/17/19 13:12		
,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		07/17/19 13:12		
,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		07/17/19 13:12		
,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		07/17/19 13:12		
-Chlorotoluene	<0.93	ug/L ug/L	7.0 5.0	0.93	1		07/17/19 13:12		
-Chlorotoluene	<0.76	ug/L ug/L	2.5	0.93	1		07/17/19 13:12		
enzene	<0.75	-	1.0	0.76	1		07/17/19 13:12		
	<0.25 <0.24	ug/L	1.0	0.23	1		07/17/19 13:12		
Bromobenzene		ug/L							
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		07/17/19 13:12		
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		07/17/19 13:12		
Sromoform	<4.0	ug/L	13.2	4.0	1		07/17/19 13:12		
Bromomethane	<0.97	ug/L	5.0	0.97	1		07/17/19 13:12		
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		07/17/19 13:12		
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 13:12		
Chloroethane	<1.3	ug/L	5.0	1.3	1		07/17/19 13:12		
Chloroform	<1.3	ug/L	5.0	1.3	1		07/17/19 13:12		
Chloromethane	<2.2	ug/L	7.3	2.2	1		07/17/19 13:12		
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		07/17/19 13:12		
Dibromomethane	<0.94	ug/L	3.1	0.94	1		07/17/19 13:12		
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		07/17/19 13:12		
iisopropyl ether	<1.9	ug/L	6.3	1.9	1		07/17/19 13:12		
thylbenzene	<0.22	ug/L	1.0	0.22	1		07/17/19 13:12		
lexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		07/17/19 13:12		
sopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		07/17/19 13:12		
Nethyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		07/17/19 13:12	1634-04-4	
Nethylene Chloride	<0.58	ug/L	5.0	0.58	1		07/17/19 13:12		
laphthalene	<1.2	ug/L	5.0	1.2	1		07/17/19 13:12	91-20-3	
Styrene	<0.47	ug/L	1.6	0.47	1		07/17/19 13:12	100-42-5	
Tetrachloroethene	106	ug/L	1.1	0.33	1		07/17/19 13:12	127-18-4	



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: PZ-3	Lab ID:	40191289003	Collected	: 07/15/19	10:00	Received: 07	7/16/19 11:00 M	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 8	260						
Toluene	<0.17	ug/L	5.0	0.17	1		07/17/19 13:12	108-88-3	
Trichloroethene	2.4	ug/L	1.0	0.26	1		07/17/19 13:12	79-01-6	
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		07/17/19 13:12	75-69-4	
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		07/17/19 13:12	75-01-4	
cis-1,2-Dichloroethene	4.2	ug/L	1.0	0.27	1		07/17/19 13:12	156-59-2	
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		07/17/19 13:12	10061-01-5	
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		07/17/19 13:12	179601-23-1	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 13:12	104-51-8	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		07/17/19 13:12	103-65-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		07/17/19 13:12	95-47-6	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		07/17/19 13:12		
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		07/17/19 13:12	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		07/17/19 13:12		
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		07/17/19 13:12	156-60-5	
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		07/17/19 13:12	10061-02-6	
Surrogates		o .							
4-Bromofluorobenzene (S)	96	%	70-130		1		07/17/19 13:12	460-00-4	
Dibromofluoromethane (S)	120	%	70-130		1		07/17/19 13:12	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		07/17/19 13:12	2037-26-5	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
- I didilieteis	- INCOURS	Office	LOQ	LOD	Di	i iepaieu			Quai
6010 MET ICP, Dissolved	Analytical	Method: EPA 6							
6010 MET ICP, Dissolved Iron, Dissolved	Analytical	Method: EPA 6	010	35.4	1		07/24/19 08:12	7439-89-6	
	•			35.4 1.1	1			7439-89-6	
Iron, Dissolved	<35.4 2.0J	ug/L	118 5.0				07/24/19 08:12	7439-89-6	
Iron, Dissolved Manganese, Dissolved	<35.4 2.0J	ug/L ug/L	118 5.0				07/24/19 08:12	7439-89-6	
Iron, Dissolved Manganese, Dissolved 8260 MSV	<35.4 2.0J Analytical	ug/L ug/L Method: EPA 8	118 5.0 260	1.1	1		07/24/19 08:12 07/24/19 08:12	7439-89-6 7439-96-5 630-20-6	
Iron, Dissolved Manganese, Dissolved 8260 MSV 1,1,1,2-Tetrachloroethane	<35.4 2.0J Analytical <0.27	ug/L ug/L Method: EPA 8. ug/L	118 5.0 260	0.27	1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	<35.4 2.0J Analytical <0.27 <0.24	ug/L ug/L Method: EPA 8. ug/L ug/L	118 5.0 260 1.0 1.0	0.27 0.24	1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	<35.4 2.0J Analytical <0.27 <0.24 <0.28	ug/L ug/L Method: EPA 8. ug/L ug/L ug/L	118 5.0 260 1.0 1.0	0.27 0.24 0.28	1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	<35.4 2.0J Analytical <0.27 <0.24 <0.28 <0.55	ug/L ug/L Method: EPA 8. ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 1.0 5.0	0.27 0.24 0.28 0.55	1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane	<35.4 2.0J Analytical <0.27 <0.24 <0.28 <0.55 <0.27	ug/L ug/L Method: EPA 8. ug/L ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 1.0 5.0 1.0	0.27 0.24 0.28 0.55 0.27	1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene	<35.4 2.0J Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24	ug/L ug/L Method: EPA 8. ug/L ug/L ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 1.0 5.0 1.0	0.27 0.24 0.28 0.55 0.27 0.24	1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene	<35.4 2.0J Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54	ug/L ug/L Method: EPA 8. ug/L ug/L ug/L ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 1.0 5.0 1.0 1.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54	1 1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene	<35.4 2.0J Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54	ug/L ug/L Method: EPA 8. ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 5.0 1.0 1.0 1.8 5.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54	1 1 1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	<35.4 2.0J Analytical <0.27 <0.24 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59	ug/L ug/L Method: EPA 8: ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59	1 1 1 1 1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2,4-Trichlorobenzene	<35.4 2.0J  Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95	ug/L ug/L Method: EPA 8: ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 5.0 1.0 1.0 1.8 5.0 5.0 5.0	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59	1 1 1 1 1 1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6	
Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	<35.4 2.0J  Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84	ug/L ug/L Method: EPA 8: ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	118 5.0 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 2.8	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8	
Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane	<35.4 2.0J  Analytical <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8	ug/L ug/L  Method: EPA 8.  ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/	118 5.0 260 1.0 1.0 1.0 5.0 1.0 1.8 5.0 5.0 5.0 5.0 2.8 5.9	0.27 0.24 0.28 0.55 0.27 0.24 0.54 0.63 0.59 0.95 0.84	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		07/24/19 08:12 07/24/19 08:12 07/24/19 08:12 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48 07/17/19 15:48	7439-89-6 7439-96-5 630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4	



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: MW-13 Lab ID: 40191289004 Collected: 07/15/19 10:55 Received: 07/16/19 11:00 Matrix: Water

Campie. IIII 10	Lub ib.	40101200004	Concoto	u. 07/10/10	7 10.00	reconved. O	1710710 11.00	Watth. Water		
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual	
8260 MSV	Analytical	Method: EPA 8	260							
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		07/17/19 15:48	78-87-5		
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		07/17/19 15:48	108-67-8		
1,3-Dichlorobenzene	< 0.63	ug/L	2.1	0.63	1		07/17/19 15:48	541-73-1		
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		07/17/19 15:48	142-28-9		
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		07/17/19 15:48	106-46-7		
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		07/17/19 15:48	594-20-7		
2-Chlorotoluene	< 0.93	ug/L	5.0	0.93	1		07/17/19 15:48	95-49-8		
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		07/17/19 15:48			
Benzene	<0.25	ug/L	1.0	0.25	1		07/17/19 15:48	71-43-2		
Bromobenzene	<0.24	ug/L	1.0	0.24	1		07/17/19 15:48	108-86-1		
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		07/17/19 15:48			
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		07/17/19 15:48			
Bromoform	<4.0	ug/L	13.2	4.0	1		07/17/19 15:48			
Bromomethane	<0.97	ug/L	5.0	0.97	1		07/17/19 15:48			
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		07/17/19 15:48			
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 15:48			
Chloroethane	<1.3	ug/L	5.0	1.3	1		07/17/19 15:48			
Chloroform	<1.3	ug/L	5.0	1.3	1		07/17/19 15:48			
Chloromethane	<2.2	ug/L	7.3	2.2	1		07/17/19 15:48			
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		07/17/19 15:48			
Dibromomethane	<0.94	ug/L ug/L	3.1	0.94	1		07/17/19 15:48	_		
Dichlorodifluoromethane	< 0.50	ug/L ug/L	5.0	0.50	1		07/17/19 15:48			
	<0.50 <1.9	•	6.3	1.9	1		07/17/19 15:48			
Diisopropyl ether	<0.22	ug/L		0.22	1					
Ethylbenzene		ug/L	1.0				07/17/19 15:48			
Hexachloro-1,3-butadiene	<1.2	ug/L	5.0	1.2	1		07/17/19 15:48			
Isopropylbenzene (Cumene)	<0.39	ug/L	5.0	0.39	1		07/17/19 15:48			
Methyl-tert-butyl ether	<1.2	ug/L	4.2	1.2	1		07/17/19 15:48			
Methylene Chloride	<0.58	ug/L	5.0	0.58	1		07/17/19 15:48			
Naphthalene	<1.2	ug/L	5.0	1.2	1		07/17/19 15:48			
Styrene	<0.47	ug/L	1.6	0.47	1		07/17/19 15:48			
Tetrachloroethene	98.8	ug/L	1.1	0.33	1		07/17/19 15:48			
Toluene	<0.17	ug/L	5.0	0.17	1		07/17/19 15:48			
Trichloroethene	8.4	ug/L	1.0	0.26	1		07/17/19 15:48			
Trichlorofluoromethane	<0.21	ug/L	1.0	0.21	1		07/17/19 15:48			
Vinyl chloride	<0.17	ug/L	1.0	0.17	1		07/17/19 15:48			
cis-1,2-Dichloroethene	17.9	ug/L	1.0	0.27	1		07/17/19 15:48	156-59-2		
cis-1,3-Dichloropropene	<3.6	ug/L	12.1	3.6	1		07/17/19 15:48			
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		07/17/19 15:48			
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 15:48			
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		07/17/19 15:48	103-65-1		
o-Xylene	<0.26	ug/L	1.0	0.26	1		07/17/19 15:48			
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		07/17/19 15:48	99-87-6		
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		07/17/19 15:48	135-98-8		
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		07/17/19 15:48	98-06-6		
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		07/17/19 15:48	156-60-5		
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		07/17/19 15:48	10061-02-6		



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Lab ID:	40191289004	Collected:	07/15/19	9 10:55	Received: 07	7/16/19 11:00 Ma	atrix: Water	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytical	Method: EPA 8	260						
0.0	0.4	70.400				07/17/10 15 10	100.00.1	
104	%	70-130		1		07/17/19 15:48	2037-26-5	
Analytical	Method: EPA 3	0.00						
8.2	mg/L	1.1	0.38	5		07/17/19 11:45	14797-55-8	H5,M0
24.2	mg/L	3.0	1.0	1		07/16/19 20:37	14808-79-8	
Analytical	Method: SM 53	10C						
0.78J	mg/L	0.84	0.25	1		07/19/19 13:53	7440-44-0	
Lab ID:	40191289005	Collected:	07/15/19	9 11:45	Received: 07	7/16/19 11:00 Ma	atrix: Water	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytical	Method: EPA 6	010						
59.4J	ua/L	118	35.4	1		07/24/19 08:19	7439-89-6	
7.1	ug/L	5.0	1.1	1				
Analytical	Method: EPA 8	260						
<0.27	ug/L	1.0	0.27	1		07/18/19 10:43	630-20-6	
<0.24	ug/L	1.0	0.24	1		07/18/19 10:43	71-55-6	
<0.28	ug/L	1.0	0.28	1		07/18/19 10:43	79-34-5	
<0.55	ug/L	5.0	0.55	1		07/18/19 10:43	79-00-5	
<0.27	ug/L	1.0	0.27	1		07/18/19 10:43	75-34-3	
<0.24	ug/L	1.0	0.24	1		07/18/19 10:43	75-35-4	
<0.54	ug/L	1.8	0.54	1		07/18/19 10:43	563-58-6	
< 0.63	ug/L	5.0	0.63	1		07/18/19 10:43	87-61-6	
<0.59	ug/L	5.0	0.59	1		07/18/19 10:43	96-18-4	
<0.95	ug/L	5.0	0.95	1		07/18/19 10:43	120-82-1	
<0.84	-	2.8	0.84	1		07/18/19 10:43	95-63-6	
<1.8	ug/L	5.9	1.8	1		07/18/19 10:43	96-12-8	
<0.83	-	2.8	0.83	1		07/18/19 10:43	106-93-4	
<0.71			0.71	1				
<0.28	-			1				
	-							
	-							
	-							
	-							
	-							
	-							
	-							
< 0.93	ug/L	5.0	0.93	1		07/18/19 10:43	95-49-8	
_	Analytical  96 114 104  Analytical  8.2 24.2  Analytical  0.78J  Lab ID:  Results  Analytical  59.4J 7.1  Analytical  <0.27 <0.24 <0.28 <0.55 <0.27 <0.24 <0.54 <0.63 <0.59 <0.95 <0.84 <1.8 <0.83 <0.71	Analytical Method: EPA 8:  96 % 114 % 104 %  Analytical Method: EPA 3:  8.2 mg/L 24.2 mg/L  Analytical Method: SM 53  0.78J mg/L  Lab ID: 40191289005  Results Units  Analytical Method: EPA 6:  59.4J ug/L 7.1 ug/L  Analytical Method: EPA 8:  <0.27 ug/L <0.24 ug/L <0.28 ug/L <0.27 ug/L <0.29 ug/L <0.27 ug/L <0.29 ug/L <0.29 ug/L <0.10,55	Results	Results	Results	Results	Results	Results



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: MW-12 Lab ID: 40191289005 Collected: 07/15/19 11:45 Received: 07/16/19 11:00 Matrix: Water

Parameters Results Units											
	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual				
8260 MSV Analytical Method: E	Analytical Method: EPA 8260										
Benzene <0.25 ug/L	1.0	0.25	1		07/18/19 10:43	71-43-2					
Bromobenzene <0.24 ug/L	1.0	0.24	1		07/18/19 10:43	108-86-1					
Bromochloromethane <0.36 ug/L	5.0	0.36	1		07/18/19 10:43	74-97-5					
Bromodichloromethane <0.36 ug/L	1.2	0.36	1		07/18/19 10:43	75-27-4					
Bromoform <4.0 ug/L	13.2	4.0	1		07/18/19 10:43	75-25-2					
Bromomethane <0.97 ug/L	5.0	0.97	1		07/18/19 10:43	74-83-9					
Carbon tetrachloride <0.17 ug/L	1.0	0.17	1		07/18/19 10:43	56-23-5					
Chlorobenzene <0.71 ug/L	2.4	0.71	1		07/18/19 10:43						
Chloroethane <1.3 ug/L	5.0	1.3	1		07/18/19 10:43	75-00-3					
Chloroform <1.3 ug/L	5.0	1.3	1		07/18/19 10:43						
Chloromethane <2.2 ug/L	7.3	2.2	1		07/18/19 10:43						
Dibromochloromethane <2.6 ug/L	8.7	2.6	1		07/18/19 10:43						
Dibromomethane <2.3	3.1	0.94	1		07/18/19 10:43						
Dichlorodifluoromethane <b>&lt;0.50</b> ug/L	5.0	0.50	1		07/18/19 10:43						
Diisopropyl ether <1.9 ug/L	6.3	1.9	1		07/18/19 10:43						
Ethylbenzene <0.22 ug/L	1.0	0.22	1		07/18/19 10:43						
Hexachloro-1,3-butadiene <1.2 ug/L	5.0	1.2	1		07/18/19 10:43						
,	5.0	0.39	1		07/18/19 10:43						
, , ,		1.2	1		07/18/19 10:43						
Methyl-tert-butyl ether <1.2 ug/L	4.2										
Methylene Chloride <0.58 ug/L	5.0	0.58	1		07/18/19 10:43						
Naphthalene <1.2 ug/L	5.0	1.2	1		07/18/19 10:43						
Styrene <0.47 ug/L	1.6	0.47	1		07/18/19 10:43						
Tetrachloroethene 49.5 ug/L	1.1	0.33	1		07/18/19 10:43						
Toluene <0.17 ug/L	5.0	0.17	1		07/18/19 10:43						
Trichloroethene 5.1 ug/L	1.0	0.26	1		07/18/19 10:43						
Trichlorofluoromethane <0.21 ug/L	1.0	0.21	1		07/18/19 10:43						
Vinyl chloride <0.17 ug/L	1.0	0.17	1		07/18/19 10:43						
cis-1,2-Dichloroethene 7.3 ug/L	1.0	0.27	1		07/18/19 10:43						
cis-1,3-Dichloropropene <3.6 ug/L	12.1	3.6	1		07/18/19 10:43	10061-01-5					
m&p-Xylene <0.47 ug/L	2.0	0.47	1		07/18/19 10:43	179601-23-1					
n-Butylbenzene <0.71 ug/L	2.4	0.71	1		07/18/19 10:43	104-51-8					
n-Propylbenzene <0.81 ug/L	5.0	0.81	1		07/18/19 10:43	103-65-1					
o-Xylene <0.26 ug/L	1.0	0.26	1		07/18/19 10:43	95-47-6					
p-Isopropyltoluene <0.80 ug/L	2.7	0.80	1		07/18/19 10:43	99-87-6					
sec-Butylbenzene <0.85 ug/L	5.0	0.85	1		07/18/19 10:43	135-98-8					
tert-Butylbenzene <0.30 ug/L	1.0	0.30	1		07/18/19 10:43	98-06-6					
trans-1,2-Dichloroethene <1.1 ug/L	3.6	1.1	1		07/18/19 10:43	156-60-5					
trans-1,3-Dichloropropene <4.4 ug/L	14.6	4.4	1		07/18/19 10:43						
Surrogates	_										
4-Bromofluorobenzene (S) 99 %	70-130		1		07/18/19 10:43	460-00-4					
Dibromofluoromethane (S) 113 %	70-130		1		07/18/19 10:43						
Toluene-d8 (S) 104 %	70-130		1		07/18/19 10:43						
300.0 IC Anions Analytical Method: E	PA 300.0										
Nitrate as N 8.9 mg/L	1.1	0.38	5		07/17/19 12:24	14797-55-8	H5				
Sulfate 23.6 mg/L	3.0	1.0	1		07/16/19 21:17	14808-79-8					



Project: 20.0156045 LEATHER-RICH

Date: 07/24/2019 12:27 PM

Pace Project No.: 40191289									
Sample: MW-12	Lab ID:	40191289005	Collected:	07/15/19	9 11:45	Received: 0	7/16/19 11:00	Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
5310C TOC	Analytica	l Method: SM 53	10C						
Total Organic Carbon	0.56J	mg/L	0.84	0.25	1		07/19/19 14:1	4 7440-44-0	
Sample: MW-2	Lab ID:	40191289006	Collected:	07/15/19	9 12:45	Received: 0	7/16/19 11:00 I	Matrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytica	l Method: EPA 8	260						
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 16:0	7 630-20-6	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		07/17/19 16:0	7 71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 16:0	7 79-34-5	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		07/17/19 16:0	7 79-00-5	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 16:0	7 75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		07/17/19 16:0	7 75-35-4	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		07/17/19 16:0	7 563-58-6	
1,2,3-Trichlorobenzene	< 0.63	ug/L	5.0	0.63	1		07/17/19 16:0	7 87-61-6	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		07/17/19 16:0	7 96-18-4	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		07/17/19 16:0	7 120-82-1	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		07/17/19 16:0	7 95-63-6	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		07/17/19 16:0	7 96-12-8	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		07/17/19 16:0	7 106-93-4	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 16:0	7 95-50-1	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 16:0	7 107-06-2	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		07/17/19 16:0	7 78-87-5	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		07/17/19 16:0	7 108-67-8	
1,3-Dichlorobenzene	< 0.63	ug/L	2.1	0.63	1		07/17/19 16:0	7 541-73-1	
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		07/17/19 16:0	7 142-28-9	
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		07/17/19 16:0		
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		07/17/19 16:0	7 594-20-7	
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		07/17/19 16:0		
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		07/17/19 16:0	7 106-43-4	
Benzene	<0.25	ug/L	1.0	0.25	1		07/17/19 16:0		
Bromobenzene	<0.24	ug/L	1.0	0.24	1		07/17/19 16:0		
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		07/17/19 16:0		
Bromodichloromethane	<0.36	ug/L	1.2	0.36	1		07/17/19 16:0		
Bromoform	<4.0	ug/L	13.2	4.0	1		07/17/19 16:0		
Bromomethane	<0.97	ug/L	5.0	0.97	1		07/17/19 16:0		
Carbon tetrachloride	<0.17	ug/L	1.0	0.17	1		07/17/19 16:0		
Chlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 16:0		
Chloroethane	<1.3	ug/L	5.0	1.3	1		07/17/19 16:0		
Chloroform	<1.3	ug/L	5.0	1.3	1		07/17/19 16:0		
Chloromethane	<2.2	ug/L	7.3	2.2	1		07/17/19 16:0		
Dibromochloromethane	<2.6	ug/L	8.7	2.6	1		07/17/19 16:0	_	
Dibromomethane	<0.94	ug/L	3.1	0.94	1		07/17/19 16:0		
Dichlorodifluoromethane	<0.50	ug/L	5.0	0.50	1		07/17/19 16:0	/ /5-/1-8	



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

	40191289006		d: 07/15/19	12.40	Received: 07	710/10 11.00	Matrix: Water	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytical	Method: EPA 8	260						
<1.9	ug/L	6.3	1.9	1		07/17/19 16:0	07 108-20-3	
<0.22	ug/L	1.0	0.22	1		07/17/19 16:0	07 100-41-4	
<1.2	ug/L	5.0	1.2	1		07/17/19 16:0	07 87-68-3	
<0.39	ug/L	5.0	0.39	1		07/17/19 16:0	07 98-82-8	
<1.2	ug/L	4.2	1.2	1		07/17/19 16:0	07 1634-04-4	
<0.58	ug/L	5.0	0.58	1		07/17/19 16:0	07 75-09-2	
<1.2	ug/L	5.0	1.2	1		07/17/19 16:0	07 91-20-3	
<0.47	-	1.6	0.47	1		07/17/19 16:0	07 100-42-5	
28.0	_	1.1	0.33	1		07/17/19 16:0	07 127-18-4	
<0.17		5.0	0.17	1		07/17/19 16:0	07 108-88-3	
<0.26		1.0	0.26	1				
<0.21	_	1.0	0.21	1				
	-							
	_							
	_							
	-		_					
	_							
	_							
	-							
	_							
<4.4	ug/L	14.6	4.4	1		07/17/19 16:0	07 10061-02-6	
07	0/	70 120		4		07/47/40 46:/	07 460 00 4	
102	%	70-130		1		07/17/19 16:0	07 2037-26-5	
Lab ID:	40191289007	Collected	d: 07/15/19	9 13:40	Received: 07	7/16/19 11:00	Matrix: Water	
Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
Analytical	Method: EPA 6	010						
<35.4	ua/l	118	35.4	1		07/24/19 08:3	22 7439-89-6	
<1.1	ug/L	5.0	1.1	1				
Analytical	Method: EPA 8	260						
<0.27	ug/L	1.0	0.27	1		07/17/19 16:2	26 630-20-6	
<0.24	-			1				
	J			1				
	_							
	-							
70.21	~9 <sup>,</sup> <b>-</b>	1.0	5.21			0.7.1.7.10 10.2		
-	Analytical  <1.9 <0.22 <1.2 <0.39 <1.2 <0.58 <1.2 <0.47 28.0 <0.17 <0.26 <0.21 <0.17 <0.27 <3.6 <0.47 <0.71 <0.81 <0.26 <0.80 <0.85 <0.30 <1.1 <4.4  97 113 102  Lab ID:  Results  Analytical <35.4 <1.1  Analytical <0.27	Analytical Method: EPA 8:  <1.9	Analytical Method: EPA 8260  <1.9	Analytical Method: EPA 8260  <1.9	Analytical Method: EPA 8260	Analytical Method: EPA 8260	Analytical Method: EPA 8260  <1.9 ug/L 6.3 1.9 1 07/17/19 163  <0.22 ug/L 1.0 0.22 1 07/17/19 163  <1.2 ug/L 5.0 1.2 1 07/17/19 163  <1.3 ug/L 5.0 0.39 1 07/17/19 163  <1.2 ug/L 5.0 0.39 1 07/17/19 163  <1.2 ug/L 5.0 0.58 1 07/17/19 163  <1.2 ug/L 5.0 1.2 1 07/17/19 163  <1.2 ug/L 5.0 1.2 1 07/17/19 163  <1.1 ug/L 5.0 0.17 1 07/17/19 163  <0.17 ug/L 5.0 0.17 1 07/17/19 163  <0.17 ug/L 5.0 0.17 1 07/17/19 163  <0.26 ug/L 1.0 0.26 1 07/17/19 163  <0.21 ug/L 1.0 0.21 1 07/17/19 163  <0.17 ug/L 0.17 ug/L 1.0 0.27 1 07/17/19 163  <0.17 ug/L 0.17 ug/L 0.10 0.27 1 07/17/19 163  <0.17 ug/L 0.27 ug/L 1.0 0.27 1 07/17/19 163  <0.17 ug/L 0.11 ug/L 0.12 ug/L 0.10 0.26 1 07/17/19 163  <0.11 ug/L 0.11 ug/L 0.11 ug/L 0.11 ug/L 0.11 ug/L 0.11 ug/L 0.11 ug/L 0.12 ug/L 0.10 0.26 1 07/17/19 163  <0.11 ug/L 0.11 ug/L 0.11 ug/L 0.11 ug/L 0.11 ug/L 0.12 ug/L 0.10 0.26 1 07/17/19 163  <0.11 ug/L 0.11 ug/L 0.11 ug/L 0.11 ug/L 0.12 ug/L 0.12 ug/L 0.13 ug/L 0.14 ug/L 0.15 0 0.85 1 07/17/19 163  <0.17 ug/L 0.18 ug/L 0.19 ug/L 0.10 0.26 1 07/17/19 163  <0.17 ug/L 0.10 0.26 1 07/17/19 163  <0.17 ug/L 0.10 0.26 1 07/17/19 163  <0.18 ug/L 0.10 0.26 1 07/17/19 163  <0.11 ug/L 0.26 ug/L 1.0 0.30 1 07/17/19 163  <0.11 ug/L 0.36 1.1 1 07/17/19 163  <0.11 ug/L 0.30 1 07/17/19 163	Analytical Method: EPA 8260

Matrix: Water

CAS No.

Qual



#### **ANALYTICAL RESULTS**

LOQ

Lab ID: 40191289007

Units

ug/L

Results

< 0.94

<2.3

< 0.93

<0.76

<0.25

< 0.24

< 0.36

< 0.36

<4.0

<0.97

<0.17

<0.71

<1.3

<1.3

<2.2

<2.6

<0.94

< 0.50

<1.9

<0.22

<1.2

<0.39

<1.2

< 0.58

<1.2

< 0.47

45.3

<0.17

<0.21

<0.17

16.1

<3.6

6.9

Collected: 07/15/19 13:40

LOD

DF

Received: 07/16/19 11:00

Analyzed

07/17/19 16:26 106-46-7

07/17/19 16:26 594-20-7

07/17/19 16:26 95-49-8

07/17/19 16:26 106-43-4

07/17/19 16:26 71-43-2

07/17/19 16:26 108-86-1

07/17/19 16:26 74-97-5

07/17/19 16:26 75-27-4

07/17/19 16:26 75-25-2

07/17/19 16:26 74-83-9

07/17/19 16:26 56-23-5

07/17/19 16:26 108-90-7

07/17/19 16:26 75-00-3

07/17/19 16:26 67-66-3

07/17/19 16:26 74-87-3

07/17/19 16:26 124-48-1

07/17/19 16:26 74-95-3

07/17/19 16:26 87-68-3

07/17/19 16:26 98-82-8

07/17/19 16:26 91-20-3

07/17/19 16:26 100-42-5

07/17/19 16:26 127-18-4

07/17/19 16:26 108-88-3

07/17/19 16:26 79-01-6

07/17/19 16:26 75-69-4

07/17/19 16:26 75-01-4

07/17/19 16:26 156-59-2

07/17/19 16:26 10061-01-5

07/17/19 16:26 1634-04-4 07/17/19 16:26 75-09-2

75-71-8

108-20-3

100-41-4

07/17/19 16:26

07/17/19 16:26

07/17/19 16:26

Prepared

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

**Parameters** 

Sample: MW-1

1.4-Dichlorobenzene

2,2-Dichloropropane

Bromochloromethane

Carbon tetrachloride

Dibromochloromethane

Dichlorodifluoromethane

Hexachloro-1,3-butadiene

Methyl-tert-butyl ether

Methylene Chloride

Tetrachloroethene

Trichloroethene

Vinyl chloride

Trichlorofluoromethane

cis-1,2-Dichloroethene

cis-1,3-Dichloropropene

Date: 07/24/2019 12:27 PM

Isopropylbenzene (Cumene)

Bromodichloromethane

2-Chlorotoluene

4-Chlorotoluene

Bromobenzene

Bromomethane

Chlorobenzene

Chloromethane

Dibromomethane

Diisopropyl ether

Ethylbenzene

Naphthalene

Styrene

Toluene

Chloroethane

Chloroform

Benzene

Bromoform

Analytical Method: EPA 8260 8260 MSV <0.54 ug/L 1.8 0.54 07/17/19 16:26 563-58-6 1,1-Dichloropropene 1 1,2,3-Trichlorobenzene < 0.63 ug/L 5.0 0.63 1 07/17/19 16:26 87-61-6 0.59 1,2,3-Trichloropropane <0.59 ug/L 5.0 1 07/17/19 16:26 96-18-4 1.2.4-Trichlorobenzene <0.95 ug/L 5.0 0.95 1 07/17/19 16:26 120-82-1 07/17/19 16:26 95-63-6 1,2,4-Trimethylbenzene <0.84 ug/L 2.8 0.84 1 07/17/19 16:26 96-12-8 1,2-Dibromo-3-chloropropane <1.8 ug/L 5.9 1.8 1 <0.83 2.8 0.83 07/17/19 16:26 106-93-4 1,2-Dibromoethane (EDB) ug/L 1 1,2-Dichlorobenzene < 0.71 ug/L 2.4 0.71 1 07/17/19 16:26 95-50-1 07/17/19 16:26 107-06-2 1,2-Dichloroethane <0.28 ug/L 1.0 0.28 1 1,2-Dichloropropane <0.28 ug/L 1.0 0.28 1 07/17/19 16:26 78-87-5 1,3,5-Trimethylbenzene 2.9 0.87 07/17/19 16:26 108-67-8 < 0.87 ug/L 1 1,3-Dichlorobenzene < 0.63 ug/L 2.1 0.63 1 07/17/19 16:26 541-73-1 1,3-Dichloropropane < 0.83 ug/L 2.8 0.83 1 07/17/19 16:26 142-28-9

3.1

7.6

5.0

2.5

1.0

1.0

5.0

1.2

13.2

5.0

1.0

2.4

5.0

5.0

7.3

8.7

3.1

5.0

6.3

1.0

5.0

5.0

4.2

5.0

5.0

1.6

1.1

5.0

1.0

1.0

1.0

1.0

12.1

0.94

0.93

0.76

0.25

0.24

0.36

0.36

0.97

0.17

0.71

1.3

1.3

2.2

2.6

0.94

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Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: MW-1	Lab ID:	40191289007	Collected	d: 07/15/19	13:40	Received: 07	7/16/19 11:00 M	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 82	260						
m&p-Xylene	<0.47	ug/L	2.0	0.47	1		07/17/19 16:26	179601-23-1	
n-Butylbenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 16:26	104-51-8	
n-Propylbenzene	<0.81	ug/L	5.0	0.81	1		07/17/19 16:26	103-65-1	
o-Xylene	<0.26	ug/L	1.0	0.26	1		07/17/19 16:26	95-47-6	
p-Isopropyltoluene	<0.80	ug/L	2.7	0.80	1		07/17/19 16:26	99-87-6	
sec-Butylbenzene	<0.85	ug/L	5.0	0.85	1		07/17/19 16:26	135-98-8	
tert-Butylbenzene	<0.30	ug/L	1.0	0.30	1		07/17/19 16:26		
trans-1,2-Dichloroethene	<1.1	ug/L	3.6	1.1	1		07/17/19 16:26		
trans-1,3-Dichloropropene	<4.4	ug/L	14.6	4.4	1		07/17/19 16:26		
Surrogates	3	ug/ L	11.0		•		01711710 10.20	10001 02 0	
4-Bromofluorobenzene (S)	94	%	70-130		1		07/17/19 16:26	460-00-4	
Dibromofluoromethane (S)	118	%	70-130		1		07/17/19 16:26		
Toluene-d8 (S)	102	%	70-130		1		07/17/19 16:26		
300.0 IC Anions		Method: EPA 30							
	8.0		1.1	0.38	5		07/17/19 12:37	14707 55 0	
Nitrate as N		mg/L			ວ 1				
Sulfate	22.8	mg/L	3.0	1.0	'		07/16/19 21:30	14000-79-0	
5310C TOC	Analytical	Method: SM 53	10C						
Total Organic Carbon	0.60J	mg/L	0.84	0.25	1		07/19/19 14:56	7440-44-0	
Sample: MW-6	Lab ID:	40191289008	Collected	d: 07/15/19	) 15:15	Received: 07	7/16/19 11:00 M	atrix: Water	
•									
Sample: MW-6 Parameters	Lab ID:	<b>40191289008</b> Units	Collected	d: 07/15/19	) 15:15 DF	Received: 07	7/16/19 11:00 M Analyzed	etrix: Water  CAS No.	Qual
Parameters	Results		LOQ _						Qual
Parameters 6010 MET ICP, Dissolved	Results	Units	LOQ _					CAS No.	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved	Results  Analytical	Units — — — — — — — — — — — — — — — — — — —	LOQ 010	LOD	DF		Analyzed	CAS No. 7439-89-6	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved  Manganese, Dissolved	Analytical 206 20.6	Units — — — — — — — — — — — — — — — — — — —	LOQ 010 118 5.0	LOD 35.4	DF 1		Analyzed 07/24/19 08:24	CAS No. 7439-89-6	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved  Manganese, Dissolved  8260 MSV	Analytical  206 20.6  Analytical	Units  Method: EPA 60  ug/L  ug/L  Method: EPA 82	LOQ 010 118 5.0	35.4 1.1	DF 1 1		Analyzed 07/24/19 08:24	CAS No. 7439-89-6 7439-96-5	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved 8260 MSV  1,1,1,2-Tetrachloroethane	Analytical 206 20.6 Analytical <1.3	Units  Method: EPA 60  ug/L  ug/L  Method: EPA 82  ug/L	LOQ 010 118 5.0 260 5.0	35.4 1.1	DF 1 1		Analyzed  07/24/19 08:24 07/24/19 08:24  07/18/19 11:02	CAS No. 7439-89-6 7439-96-5 630-20-6	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane	Analytical 206 20.6 Analytical <1.3 <1.2	Units  Method: EPA 60  ug/L  ug/L  Method: EPA 82  ug/L  ug/L  ug/L	LOQ 010 118 5.0 260 5.0 5.0	35.4 1.1 1.3 1.2	DF 1 1 5 5 5		Analyzed  07/24/19 08:24 07/24/19 08:24  07/18/19 11:02 07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane	Analytical 206 20.6 Analytical <1.3 <1.2 <1.4	Units — — — — — — — — — — — — — — — — — — —	LOQ 010 118 5.0 260 5.0 5.0 5.0	35.4 1.1 1.3 1.2 1.4	DF 1 1 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2,2-Tetrachloroethane 1,1,2-Trichloroethane	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8	Units  Method: EPA 60 ug/L ug/L Method: EPA 82 ug/L ug/L ug/L ug/L ug/L ug/L	LOQ 010 118 5.0 260 5.0 5.0 5.0 25.0	35.4 1.1 1.3 1.2 1.4 2.8	DF 1 1 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4	Units  Method: EPA 60 ug/L ug/L Method: EPA 82 ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	LOQ 010 118 5.0 260 5.0 5.0 5.0 25.0 5.0	35.4 1.1 1.3 1.2 1.4 2.8 1.4	DF  1 1 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2	Units  Method: EPA 60 ug/L ug/L Method: EPA 82 ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	LOQ 010 118 5.0 260 5.0 5.0 5.0 25.0 5.0 5.0	1.3 1.2 1.4 2.8 1.4 1.2	DF  1 1 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2 <2.7	Units  Method: EPA 60  ug/L	LOQ 010 118 5.0 260 5.0 5.0 5.0 25.0 5.0 5.0 9.0	1.3 1.2 1.4 2.8 1.4 1.2 2.7	DF 1 1 5 5 5 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2 <2.7 <3.1	Units  Method: EPA 60  ug/L	LOQ 010 118 5.0 260 5.0 5.0 5.0 5.0 5.0 5.0 9.0 25.0	1.3 1.2 1.4 2.8 1.4 1.2 2.7 3.1	DF  1 1 5 5 5 5 5 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichloropropane	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2 <2.7 <3.1 <3.0	Units  Method: EPA 60  ug/L	LOQ 010 118 5.0 260 5.0 5.0 5.0 5.0 5.0 5.0 5.0 25.0 5.0 25.0 5.0	1.3 1.2 1.4 2.8 1.4 1.2 2.7 3.1 3.0	DF  1 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2 <2.7 <3.1 <3.0 <4.8	Units  Units  Units  Ug/L  Ug/L	LOQ 010 118 5.0 260 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	1.3 1.2 1.4 2.8 1.4 1.2 2.7 3.1 3.0 4.8	DF  1 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2 <2.7 <3.1 <3.0 <4.8 <4.2	Units — — — — — — — — — — — — — — — — — — —	LOQ 010 118 5.0 260 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	1.3 1.2 1.4 2.8 1.4 1.2 2.7 3.1 3.0 4.8 4.2	DF  1 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6	Qual
Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Tetrachloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,4-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2 <2.7 <3.1 <3.0 <4.8 <4.2 <8.8	Units — — — — — — — — — — — — — — — — — — —	LOQ 010 118 5.0 260 5.0 5.0 5.0 5.0 25.0 25.0 25.0 25.0 25	1.3 1.2 1.4 2.8 1.4 1.2 2.7 3.1 3.0 4.8 4.2 8.8	DF 1 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8	Qual
Sample: MW-6  Parameters  6010 MET ICP, Dissolved  Iron, Dissolved Manganese, Dissolved  8260 MSV  1,1,1,2-Tetrachloroethane 1,1,1-Trichloroethane 1,1,2-Tetrachloroethane 1,1,2-Trichloroethane 1,1-Dichloroethane 1,1-Dichloroethane 1,1-Dichloroethene 1,1-Dichloropropene 1,2,3-Trichlorobenzene 1,2,3-Trichlorobenzene 1,2,4-Trimethylbenzene 1,2,4-Trimethylbenzene 1,2-Dibromo-3-chloropropane 1,2-Dibromoethane (EDB) 1,2-Dichlorobenzene	Analytical  206 20.6  Analytical  <1.3 <1.2 <1.4 <2.8 <1.4 <1.2 <2.7 <3.1 <3.0 <4.8 <4.2	Units — — — — — — — — — — — — — — — — — — —	LOQ 010 118 5.0 260 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.	1.3 1.2 1.4 2.8 1.4 1.2 2.7 3.1 3.0 4.8 4.2	DF  1 1 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		Analyzed  07/24/19 08:24  07/24/19 08:24  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02  07/18/19 11:02	CAS No.  7439-89-6 7439-96-5  630-20-6 71-55-6 79-34-5 79-00-5 75-34-3 75-35-4 563-58-6 87-61-6 96-18-4 120-82-1 95-63-6 96-12-8 106-93-4	Qual



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

 Sample:
 MW-6
 Lab ID:
 40191289008
 Collected:
 07/15/19 15:15
 Received:
 07/16/19 11:00
 Matrix:
 Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA	A 8260						
1,2-Dichloroethane	<1.4	ug/L	5.0	1.4	5		07/18/19 11:02	107-06-2	
1,2-Dichloropropane	<1.4	ug/L	5.0	1.4	5		07/18/19 11:02	78-87-5	
1,3,5-Trimethylbenzene	<4.4	ug/L	14.6	4.4	5		07/18/19 11:02	108-67-8	
1,3-Dichlorobenzene	<3.1	ug/L	10.5	3.1	5		07/18/19 11:02	541-73-1	
1,3-Dichloropropane	<4.1	ug/L	13.8	4.1	5		07/18/19 11:02	142-28-9	
1,4-Dichlorobenzene	<4.7	ug/L	15.7	4.7	5		07/18/19 11:02	106-46-7	
2,2-Dichloropropane	<11.3	ug/L	37.8	11.3	5		07/18/19 11:02	594-20-7	
2-Chlorotoluene	<4.6	ug/L	25.0	4.6	5		07/18/19 11:02		
4-Chlorotoluene	<3.8	ug/L	12.6	3.8	5		07/18/19 11:02		
Benzene	<1.2	ug/L	5.0	1.2	5		07/18/19 11:02		
Bromobenzene	<1.2	ug/L	5.0	1.2	5		07/18/19 11:02		
Bromochloromethane	<1.8	ug/L	25.0	1.8	5		07/18/19 11:02		
Bromodichloromethane	<1.8	ug/L	6.1	1.8	5		07/18/19 11:02		
Bromoform	<19.9	ug/L	66.2	19.9	5		07/18/19 11:02		
Bromomethane	<4.9	ug/L	25.0	4.9	5		07/18/19 11:02		
Carbon tetrachloride	<0.83	ug/L ug/L	5.0	0.83	5		07/18/19 11:02		
Chlorobenzene	<3.6	_	11.8	3.6	5		07/18/19 11:02		
Chloroethane	<5.0 <6.7	ug/L	25.0	6.7	5 5		07/18/19 11:02		
		ug/L							
Chloroform	<6.4	ug/L	25.0	6.4	5		07/18/19 11:02		
Chloromethane	<10.9	ug/L	36.5	10.9	5		07/18/19 11:02		
Dibromochloromethane	<13.0	ug/L	43.4	13.0	5		07/18/19 11:02		
Dibromomethane	<4.7	ug/L	15.6	4.7	5		07/18/19 11:02		
Dichlorodifluoromethane	<2.5	ug/L	25.0	2.5	5		07/18/19 11:02		
Diisopropyl ether	<9.4	ug/L	31.5	9.4	5		07/18/19 11:02		
Ethylbenzene	<1.1	ug/L	5.0	1.1	5		07/18/19 11:02		
Hexachloro-1,3-butadiene	<5.9	ug/L	25.0	5.9	5		07/18/19 11:02		
Isopropylbenzene (Cumene)	<2.0	ug/L	25.0	2.0	5		07/18/19 11:02		
Methyl-tert-butyl ether	<6.2	ug/L	20.8	6.2	5		07/18/19 11:02		
Methylene Chloride	<2.9	ug/L	25.0	2.9	5		07/18/19 11:02		
Naphthalene	<5.9	ug/L	25.0	5.9	5		07/18/19 11:02	91-20-3	
Styrene	<2.3	ug/L	7.8	2.3	5		07/18/19 11:02	100-42-5	
Tetrachloroethene	636	ug/L	5.4	1.6	5		07/18/19 11:02	127-18-4	
Toluene	<0.86	ug/L	25.0	0.86	5		07/18/19 11:02	108-88-3	
Trichloroethene	76.8	ug/L	5.0	1.3	5		07/18/19 11:02	79-01-6	
Trichlorofluoromethane	<1.1	ug/L	5.0	1.1	5		07/18/19 11:02	75-69-4	
Vinyl chloride	<0.87	ug/L	5.0	0.87	5		07/18/19 11:02	75-01-4	
cis-1,2-Dichloroethene	242	ug/L	5.0	1.4	5		07/18/19 11:02	156-59-2	
cis-1,3-Dichloropropene	<18.1	ug/L	60.5	18.1	5		07/18/19 11:02	10061-01-5	
m&p-Xylene	<2.3	ug/L	10.0	2.3	5		07/18/19 11:02	179601-23-1	
n-Butylbenzene	<3.5	ug/L	11.8	3.5	5		07/18/19 11:02		
n-Propylbenzene	<4.1	ug/L	25.0	4.1	5		07/18/19 11:02		
o-Xylene	<1.3	ug/L	5.0	1.3	5		07/18/19 11:02		
p-lsopropyltoluene	<4.0	ug/L	13.3	4.0	5		07/18/19 11:02		
sec-Butylbenzene	<4.2	ug/L	25.0	4.2	5		07/18/19 11:02		
tert-Butylbenzene	<1.5	ug/L	5.1	1.5	5		07/18/19 11:02		
trans-1,2-Dichloroethene	5.7J	ug/L ug/L	18.2	5.5	5		07/18/19 11:02		



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Sample: MW-6	Lab ID:	40191289008	Collected	l: 07/15/19	9 15:15	Received: 07	7/16/19 11:00 Ma	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 8	260						
trans-1,3-Dichloropropene Surrogates	<21.9	ug/L	72.8	21.9	5		07/18/19 11:02	10061-02-6	
4-Bromofluorobenzene (S)	95	%	70-130		5		07/18/19 11:02	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		5		07/18/19 11:02		
Toluene-d8 (S)	101	%	70-130		5		07/18/19 11:02	2037-26-5	
300.0 IC Anions	Analytical	Method: EPA 3	0.00						
Nitrate as N	6.3	mg/L	1.1	0.38	5		07/17/19 12:50	14797-55-8	
Sulfate	20.4	mg/L	3.0	1.0	1		07/16/19 21:43	14808-79-8	
5310C TOC	Analytical	Method: SM 53	10C						
Total Organic Carbon	0.77J	mg/L	0.84	0.25	1		07/19/19 15:16	7440-44-0	
Sample: TRIP	Lab ID:	40191289009	Collected	d: 07/15/19	9 10:05	Received: 07	7/16/19 11:00 Ma	atrix: Water	
Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical	Method: EPA 8	<del></del> 260						
1,1,1,2-Tetrachloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 12:13	630-20-6	
1,1,1-Trichloroethane	<0.24	ug/L	1.0	0.24	1		07/17/19 12:13	71-55-6	
1,1,2,2-Tetrachloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 12:13	79-34-5	
1,1,2-Trichloroethane	<0.55	ug/L	5.0	0.55	1		07/17/19 12:13	79-00-5	
1,1-Dichloroethane	<0.27	ug/L	1.0	0.27	1		07/17/19 12:13	75-34-3	
1,1-Dichloroethene	<0.24	ug/L	1.0	0.24	1		07/17/19 12:13	75-35-4	
1,1-Dichloropropene	<0.54	ug/L	1.8	0.54	1		07/17/19 12:13	563-58-6	
1,2,3-Trichlorobenzene	< 0.63	ug/L	5.0	0.63	1		07/17/19 12:13	87-61-6	
1,2,3-Trichloropropane	<0.59	ug/L	5.0	0.59	1		07/17/19 12:13	96-18-4	
1,2,4-Trichlorobenzene	<0.95	ug/L	5.0	0.95	1		07/17/19 12:13	120-82-1	
1,2,4-Trimethylbenzene	<0.84	ug/L	2.8	0.84	1		07/17/19 12:13	95-63-6	
1,2-Dibromo-3-chloropropane	<1.8	ug/L	5.9	1.8	1		07/17/19 12:13	96-12-8	
1,2-Dibromoethane (EDB)	<0.83	ug/L	2.8	0.83	1		07/17/19 12:13	106-93-4	
1,2-Dichlorobenzene	<0.71	ug/L	2.4	0.71	1		07/17/19 12:13	95-50-1	
1,2-Dichloroethane	<0.28	ug/L	1.0	0.28	1		07/17/19 12:13	107-06-2	
1,2-Dichloropropane	<0.28	ug/L	1.0	0.28	1		07/17/19 12:13	78-87-5	
1,3,5-Trimethylbenzene	<0.87	ug/L	2.9	0.87	1		07/17/19 12:13		
1,3-Dichlorobenzene	<0.63	ug/L	2.1	0.63	1		07/17/19 12:13		
1,3-Dichloropropane	<0.83	ug/L	2.8	0.83	1		07/17/19 12:13		
1,4-Dichlorobenzene	<0.94	ug/L	3.1	0.94	1		07/17/19 12:13		
2,2-Dichloropropane	<2.3	ug/L	7.6	2.3	1		07/17/19 12:13		
2-Chlorotoluene	<0.93	ug/L	5.0	0.93	1		07/17/19 12:13		
4-Chlorotoluene	<0.76	ug/L	2.5	0.76	1		07/17/19 12:13		
Benzene	<0.25	ug/L	1.0	0.25	1		07/17/19 12:13		
Bromobenzene	<0.24	ug/L	1.0	0.24	1		07/17/19 12:13		
Bromochloromethane	<0.36	ug/L	5.0	0.36	1		07/17/19 12:13	74-97-5	



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Toluene-d8 (S)

Date: 07/24/2019 12:27 PM

Sample: TRIP Lab ID: 40191289009 Collected: 07/15/19 10:05 Received: 07/16/19 11:00 Matrix: Water LOQ LOD DF Results Units Prepared CAS No. **Parameters** Analyzed Qual Analytical Method: EPA 8260 8260 MSV Bromodichloromethane <0.36 ug/L 1.2 0.36 07/17/19 12:13 75-27-4 1 07/17/19 12:13 75-25-2 Bromoform <4.0 ug/L 13.2 4.0 1 **Bromomethane** <0.97 ug/L 5.0 0.97 1 07/17/19 12:13 74-83-9 Carbon tetrachloride <0.17 ug/L 1.0 0.17 07/17/19 12:13 56-23-5 1 07/17/19 12:13 108-90-7 Chlorobenzene <0.71 ug/L 24 0.71 1 ug/L 5.0 1.3 07/17/19 12:13 75-00-3 Chloroethane <1.3 1 5.0 1.3 07/17/19 12:13 67-66-3 Chloroform <1.3 ug/L 1 Chloromethane <2.2 ug/L 7.3 2.2 1 07/17/19 12:13 74-87-3 Dibromochloromethane <2.6 ug/L 8.7 2.6 1 07/17/19 12:13 124-48-1 Dibromomethane < 0.94 ug/L 3.1 0.94 1 07/17/19 12:13 74-95-3 Dichlorodifluoromethane < 0.50 ug/L 5.0 0.50 07/17/19 12:13 75-71-8 1 07/17/19 12:13 108-20-3 Diisopropyl ether <1.9 ug/L 6.3 1.9 1 Ethylbenzene 0.22 07/17/19 12:13 100-41-4 <0.22 ug/L 1.0 Hexachloro-1.3-butadiene <1.2 ug/L 5.0 1.2 1 07/17/19 12:13 87-68-3 Isopropylbenzene (Cumene) <0.39 ug/L 5.0 0.39 07/17/19 12:13 98-82-8 1 07/17/19 12:13 1634-04-4 Methyl-tert-butyl ether <1.2 ug/L 4.2 1.2 1 07/17/19 12:13 75-09-2 Methylene Chloride <0.58 ug/L 5.0 0.58 1 Naphthalene 07/17/19 12:13 91-20-3 <1.2 ug/L 5.0 1.2 1 Styrene <0.47 ug/L 1.6 0.47 07/17/19 12:13 100-42-5 1 07/17/19 12:13 127-18-4 Tetrachloroethene <0.33 ug/L 1.1 0.33 1 Toluene <0.17 ug/L 5.0 0.17 1 07/17/19 12:13 108-88-3 Trichloroethene <0.26 0.26 07/17/19 12:13 79-01-6 ug/L 1.0 Trichlorofluoromethane <0.21 0.21 07/17/19 12:13 75-69-4 ug/L 1.0 Vinyl chloride <0.17 ug/L 1.0 0.17 1 07/17/19 12:13 75-01-4 cis-1,2-Dichloroethene <0.27 ug/L 1.0 0.27 1 07/17/19 12:13 156-59-2 cis-1,3-Dichloropropene <3.6 ug/L 12.1 3.6 07/17/19 12:13 10061-01-5 1 07/17/19 12:13 179601-23-1 m&p-Xylene <0.47 ug/L 2.0 0.47 1 n-Butylbenzene <0.71 24 0.71 07/17/19 12:13 104-51-8 ug/L 1 n-Propylbenzene <0.81 5.0 0.81 07/17/19 12:13 103-65-1 ug/L 1 o-Xylene <0.26 0.26 07/17/19 12:13 95-47-6 ug/L 1.0 1 p-Isopropyltoluene <0.80 ug/L 2.7 0.80 1 07/17/19 12:13 99-87-6 sec-Butylbenzene <0.85 ug/L 5.0 0.85 1 07/17/19 12:13 135-98-8 tert-Butylbenzene <0.30 ug/L 1.0 0.30 1 07/17/19 12:13 98-06-6 trans-1,2-Dichloroethene <1.1 ug/L 3.6 1.1 1 07/17/19 12:13 156-60-5 trans-1,3-Dichloropropene <4.4 ug/L 14.6 44 1 07/17/19 12:13 10061-02-6 Surrogates 4-Bromofluorobenzene (S) 94 % 70-130 1 07/17/19 12:13 460-00-4 Dibromofluoromethane (S) 117 % 70-130 1 07/17/19 12:13 1868-53-7 HS

#### **REPORT OF LABORATORY ANALYSIS**

70-130

1

99

%

07/17/19 12:13 2037-26-5



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

QC Batch: 328481 Analysis Method: EPA 6010

QC Batch Method: EPA 6010 Analysis Description: ICP Metals, Trace, Dissolved

Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

METHOD BLANK: 1907307 Matrix: Water

Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

Blank Reporting
Parameter Units Result Limit Ana

Parameter Units Result Limit Analyzed Qualifiers solved ug/L <35.4 118 07/24/19 08:07

 Iron, Dissolved
 ug/L
 <35.4</th>
 118
 07/24/19 08:07

 Manganese, Dissolved
 ug/L
 <1.1</td>
 5.0
 07/24/19 08:07

LABORATORY CONTROL SAMPLE: 1907308

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers ug/L Iron, Dissolved 5000 4820 96 80-120 ug/L Manganese, Dissolved 500 481 96 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1907309 1907310

			MS	MSD								
		40191289004	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Iron, Dissolved	ug/L	<35.4	5000	5000	4800	4780	96	95	75-125	0	20	
Manganese, Dissolved	ug/L	2.0J	500	500	477	476	95	95	75-125	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

QC Batch: 327722 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV

Associated Lab Samples: 40191289001, 40191289002, 40191289003, 40191289004, 40191289005, 40191289006, 40191289007,

40191289008, 40191289009

METHOD BLANK: 1902946 Matrix: Water

Associated Lab Samples: 40191289001, 40191289002, 40191289003, 40191289004, 40191289005, 40191289006, 40191289007,

40191289008, 40191289009

40191208	9006, 40191269009				
		Blank	Reporting		
Parameter	Units	Result	Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.27	1.0	07/17/19 09:57	
1,1,1-Trichloroethane	ug/L	< 0.24	1.0	07/17/19 09:57	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	1.0	07/17/19 09:57	
1,1,2-Trichloroethane	ug/L	< 0.55	5.0	07/17/19 09:57	
1,1-Dichloroethane	ug/L	< 0.27	1.0	07/17/19 09:57	
1,1-Dichloroethene	ug/L	<0.24	1.0	07/17/19 09:57	
1,1-Dichloropropene	ug/L	< 0.54	1.8	07/17/19 09:57	
1,2,3-Trichlorobenzene	ug/L	< 0.63	5.0	07/17/19 09:57	
1,2,3-Trichloropropane	ug/L	< 0.59	5.0	07/17/19 09:57	
1,2,4-Trichlorobenzene	ug/L	< 0.95	5.0	07/17/19 09:57	
1,2,4-Trimethylbenzene	ug/L	<0.84	2.8	07/17/19 09:57	
1,2-Dibromo-3-chloropropane	ug/L	<1.8	5.9	07/17/19 09:57	
1,2-Dibromoethane (EDB)	ug/L	<0.83	2.8	07/17/19 09:57	
1,2-Dichlorobenzene	ug/L	<0.71	2.4	07/17/19 09:57	
1,2-Dichloroethane	ug/L	<0.28	1.0	07/17/19 09:57	
1,2-Dichloropropane	ug/L	<0.28	1.0	07/17/19 09:57	
1,3,5-Trimethylbenzene	ug/L	<0.87	2.9	07/17/19 09:57	
1,3-Dichlorobenzene	ug/L	< 0.63	2.1	07/17/19 09:57	
1,3-Dichloropropane	ug/L	<0.83	2.8	07/17/19 09:57	
1,4-Dichlorobenzene	ug/L	< 0.94	3.1	07/17/19 09:57	
2,2-Dichloropropane	ug/L	<2.3	7.6	07/17/19 09:57	
2-Chlorotoluene	ug/L	< 0.93	5.0	07/17/19 09:57	
4-Chlorotoluene	ug/L	< 0.76	2.5	07/17/19 09:57	
Benzene	ug/L	< 0.25	1.0	07/17/19 09:57	
Bromobenzene	ug/L	< 0.24	1.0	07/17/19 09:57	
Bromochloromethane	ug/L	< 0.36	5.0	07/17/19 09:57	
Bromodichloromethane	ug/L	< 0.36	1.2	07/17/19 09:57	
Bromoform	ug/L	<4.0	13.2	07/17/19 09:57	
Bromomethane	ug/L	< 0.97	5.0	07/17/19 09:57	
Carbon tetrachloride	ug/L	<0.17	1.0	07/17/19 09:57	
Chlorobenzene	ug/L	<0.71	2.4	07/17/19 09:57	
Chloroethane	ug/L	<1.3	5.0	07/17/19 09:57	
Chloroform	ug/L	<1.3	5.0	07/17/19 09:57	
Chloromethane	ug/L	<2.2	7.3	07/17/19 09:57	
cis-1,2-Dichloroethene	ug/L	< 0.27	1.0	07/17/19 09:57	
cis-1,3-Dichloropropene	ug/L	<3.6	12.1	07/17/19 09:57	
Dibromochloromethane	ug/L	<2.6	8.7	07/17/19 09:57	
Dibromomethane	ug/L	< 0.94	3.1	07/17/19 09:57	
Dichlorodifluoromethane	ug/L	< 0.50	5.0	07/17/19 09:57	
Diisopropyl ether	ug/L	<1.9	6.3	07/17/19 09:57	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

METHOD BLANK: 1902946 Matrix: Water

Associated Lab Samples: 40191289001, 40191289002, 40191289003, 40191289004, 40191289005, 40191289006, 40191289007,

40191289008, 40191289009

Doromotor	Llaita	Blank	Reporting	Analyzad	Qualifiers
Parameter	Units	Result	Limit	Analyzed	
Ethylbenzene	ug/L	<0.22	1.0	07/17/19 09:57	
Hexachloro-1,3-butadiene	ug/L	<1.2	5.0	07/17/19 09:57	
Isopropylbenzene (Cumene)	ug/L	< 0.39	5.0	07/17/19 09:57	
m&p-Xylene	ug/L	< 0.47	2.0	07/17/19 09:57	
Methyl-tert-butyl ether	ug/L	<1.2	4.2	07/17/19 09:57	
Methylene Chloride	ug/L	<0.58	5.0	07/17/19 09:57	
n-Butylbenzene	ug/L	< 0.71	2.4	07/17/19 09:57	
n-Propylbenzene	ug/L	<0.81	5.0	07/17/19 09:57	
Naphthalene	ug/L	<1.2	5.0	07/17/19 09:57	
o-Xylene	ug/L	<0.26	1.0	07/17/19 09:57	
p-Isopropyltoluene	ug/L	<0.80	2.7	07/17/19 09:57	
sec-Butylbenzene	ug/L	<0.85	5.0	07/17/19 09:57	
Styrene	ug/L	< 0.47	1.6	07/17/19 09:57	
tert-Butylbenzene	ug/L	< 0.30	1.0	07/17/19 09:57	
Tetrachloroethene	ug/L	< 0.33	1.1	07/17/19 09:57	
Toluene	ug/L	<0.17	5.0	07/17/19 09:57	
trans-1,2-Dichloroethene	ug/L	<1.1	3.6	07/17/19 09:57	
trans-1,3-Dichloropropene	ug/L	<4.4	14.6	07/17/19 09:57	
Trichloroethene	ug/L	<0.26	1.0	07/17/19 09:57	
Trichlorofluoromethane	ug/L	<0.21	1.0	07/17/19 09:57	
Vinyl chloride	ug/L	< 0.17	1.0	07/17/19 09:57	
4-Bromofluorobenzene (S)	%	98	70-130	07/17/19 09:57	
Dibromofluoromethane (S)	%	119	70-130	07/17/19 09:57	
Toluene-d8 (S)	%	106	70-130	07/17/19 09:57	

LABORATORY CONTROL SAMPLE:	1902947					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	50	54.8	110	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	49.0	98	70-130	
1,1,2-Trichloroethane	ug/L	50	51.1	102	70-130	
1,1-Dichloroethane	ug/L	50	52.7	105	73-150	
1,1-Dichloroethene	ug/L	50	60.7	121	73-138	
1,2,4-Trichlorobenzene	ug/L	50	46.6	93	70-130	
1,2-Dibromo-3-chloropropane	ug/L	50	42.3	85	64-129	
1,2-Dibromoethane (EDB)	ug/L	50	49.0	98	70-130	
1,2-Dichlorobenzene	ug/L	50	45.8	92	70-130	
1,2-Dichloroethane	ug/L	50	55.8	112	75-140	
1,2-Dichloropropane	ug/L	50	47.2	94	73-135	
1,3-Dichlorobenzene	ug/L	50	46.8	94	70-130	
1,4-Dichlorobenzene	ug/L	50	46.9	94	70-130	
Benzene	ug/L	50	56.7	113	70-130	
Bromodichloromethane	ug/L	50	51.3	103	70-130	

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#### **REPORT OF LABORATORY ANALYSIS**

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Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

LABORATORY CONTROL SAMPLE:	1902947					
		Spike	LCS	LCS	% Rec	
Parameter	Units	Conc.	Result	% Rec	Limits	Qualifiers
Bromoform	ug/L	50	43.3	87	68-129	
Bromomethane	ug/L	50	32.5	65	18-159	
Carbon tetrachloride	ug/L	50	52.9	106	70-130	
Chlorobenzene	ug/L	50	49.3	99	70-130	
Chloroethane	ug/L	50	59.3	119	53-147	
Chloroform	ug/L	50	54.2	108	74-136	
Chloromethane	ug/L	50	41.7	83	29-115	
is-1,2-Dichloroethene	ug/L	50	54.0	108	70-130	
is-1,3-Dichloropropene	ug/L	50	46.6	93	70-130	
Dibromochloromethane	ug/L	50	45.4	91	70-130	
Dichlorodifluoromethane	ug/L	50	39.3	79	10-130	
thylbenzene	ug/L	50	51.5	103	80-124	
sopropylbenzene (Cumene)	ug/L	50	53.4	107	70-130	
n&p-Xylene	ug/L	100	105	105	70-130	
lethyl-tert-butyl ether	ug/L	50	48.5	97	54-137	
ethylene Chloride	ug/L	50	52.6	105	73-138	
Xylene	ug/L	50	52.0	104	70-130	
tyrene	ug/L	50	52.0	104	70-130	
etrachloroethene	ug/L	50	55.0	110	70-130	
oluene	ug/L	50	51.9	104	80-126	
ans-1,2-Dichloroethene	ug/L	50	57.2	114	73-145	
ans-1,3-Dichloropropene	ug/L	50	42.4	85	70-130	
richloroethene	ug/L	50	54.8	110	70-130	
richlorofluoromethane	ug/L	50	60.8	122	76-147	
inyl chloride	ug/L	50	54.8	110	51-120	
-Bromofluorobenzene (S)	%			105	70-130	
ibromofluoromethane (S)	%			111	70-130	
oluene-d8 (S)	%			105	70-130	

MATRIX SPIKE & MATRIX SI	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1903058  MS			MSD	1903059							
Parameter	Units	40191289001	Spike	Spike	MS	MSD	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Ougl
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	KPD	KPD	Qual
1,1,1-Trichloroethane	ug/L	<0.24	50	50	56.9	57.7	114	115	70-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.28	50	50	53.4	50.5	107	101	70-130	6	20	
1,1,2-Trichloroethane	ug/L	< 0.55	50	50	51.8	51.6	104	103	70-137	1	20	
1,1-Dichloroethane	ug/L	<0.27	50	50	52.4	53.5	105	107	73-153	2	20	
1,1-Dichloroethene	ug/L	< 0.24	50	50	63.0	63.8	126	128	73-138	1	20	
1,2,4-Trichlorobenzene	ug/L	< 0.95	50	50	50.3	50.0	101	100	70-130	1	20	
1,2-Dibromo-3- chloropropane	ug/L	<1.8	50	50	45.9	45.4	92	91	58-129	1	20	
1,2-Dibromoethane (EDB)	ug/L	< 0.83	50	50	52.0	50.8	104	102	70-130	2	20	
1,2-Dichlorobenzene	ug/L	< 0.71	50	50	49.1	47.8	98	96	70-130	3	20	
1,2-Dichloroethane	ug/L	<0.28	50	50	51.8	52.5	104	105	75-140	1	20	
1,2-Dichloropropane	ug/L	<0.28	50	50	47.7	48.3	95	97	71-138	1	20	

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Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

MATRIX SPIKE & MATRIX SF	PIKE DUPLI	CATE: 1903			1903059							
Parameter	Units	40191289001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qua
1,3-Dichlorobenzene	ug/L	<0.63	50	50	48.7	47.5	97	95	70-130	2	20	
1,4-Dichlorobenzene	ug/L	< 0.94	50	50	48.3	48.3	97	97	70-130	0	20	
Benzene	ug/L	<0.25	50	50	58.0	58.7	116	117	70-130	1	20	
Bromodichloromethane	ug/L	< 0.36	50	50	50.5	51.1	101	102	70-130	1	20	
Bromoform	ug/L	<4.0	50	50	45.2	42.9	90	86	68-129	5	20	
Bromomethane	ug/L	< 0.97	50	50	41.5	44.9	83	90	15-170	8	20	
Carbon tetrachloride	ug/L	<0.17	50	50	54.0	55.9	108	112	70-130	3	20	
Chlorobenzene	ug/L	<0.71	50	50	50.9	51.7	102	103	70-130	1	20	
Chloroethane	ug/L	<1.3	50	50	60.4	59.1	121	118	51-148	2	20	
Chloroform	ug/L	<1.3	50	50	56.6	56.7	113	113	74-136	0	20	
Chloromethane	ug/L	<2.2	50	50	42.7	43.8	85	88	23-115	3	20	
cis-1,2-Dichloroethene	ug/L	1.4	50	50	56.2	56.5	110	110	70-131	1	20	
cis-1,3-Dichloropropene	ug/L	<3.6	50	50	48.4	47.6	97	95	70-130	2	20	
Dibromochloromethane	ug/L	<2.6	50	50	46.2	45.9	92	92	70-130	1	20	
Dichlorodifluoromethane	ug/L	< 0.50	50	50	41.2	41.3	82	83	10-132	0	20	
Ethylbenzene	ug/L	<0.22	50	50	51.6	53.0	103	106	80-125	3	20	
sopropylbenzene (Cumene)	ug/L	<0.39	50	50	53.4	55.1	107	110	70-130	3	20	
m&p-Xylene	ug/L	< 0.47	100	100	106	105	106	105	70-130	0	20	
Methyl-tert-butyl ether	ug/L	<1.2	50	50	49.5	49.5	99	99	51-145	0	20	
Methylene Chloride	ug/L	<0.58	50	50	54.3	54.4	109	109	73-140	0	20	
o-Xylene	ug/L	<0.26	50	50	53.5	52.4	107	105	70-130	2	20	
Styrene	ug/L	< 0.47	50	50	54.5	52.3	109	105	70-130	4	20	
Tetrachloroethene	ug/L	6.6	50	50	62.2	63.1	111	113	70-130	1	20	
Toluene	ug/L	<0.17	50	50	52.5	52.2	105	104	80-131	1	20	
rans-1,2-Dichloroethene	ug/L	<1.1	50	50	57.9	58.0	116	116	73-148	0	20	
rans-1,3-Dichloropropene	ug/L	<4.4	50	50	43.8	43.7	88	87	70-130	0	20	
Trichloroethene	ug/L	0.62J	50	50	55.3	54.8	109	108	70-130	1	20	
Trichlorofluoromethane	ug/L	<0.21	50	50	62.3	64.3	125	129	74-147	3	20	
Vinyl chloride	ug/L	<0.17	50	50	55.7	56.0	111	112	41-129	1	20	
4-Bromofluorobenzene (S)	%						107	109	70-130			
Dibromofluoromethane (S)	%						114	119	70-130			
Toluene-d8 (S)	%						105	105	70-130			

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Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Sulfate

Date: 07/24/2019 12:27 PM

QC Batch: 327691 Analysis Method: EPA 300.0

QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions

Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

METHOD BLANK: 1902596 Matrix: Water

mg/L

Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

Blank Reporting

ParameterUnitsResultLimitAnalyzedQualifiersNitrate as Nmg/L<0.075</td>0.2207/16/19 19:31

Nitrate as N mg/L <0.075 0.22 07/16/19 19:31 Sulfate mg/L <1.0 3.0 07/16/19 19:31

24.2

LABORATORY CONTROL SAMPLE: 1902597

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Nitrate as N 1.5 1.5 98 90-110 mg/L mg/L Sulfate 20 19.4 97 90-110

20

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1902598 1902599 MSD MS 40191289004 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** Qual Nitrate as N mg/L 8.2 7.5 7.5 15.1 14.8 92 89 90-110 2 15 M0

20

43.6

43.7

97

97

90-110

0 15

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Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

QC Batch: 327870 Analysis Method: SM 5310C

QC Batch Method: SM 5310C Analysis Description: 5310C Total Organic Carbon

Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

METHOD BLANK: 1903779 Matrix: Water

Associated Lab Samples: 40191289004, 40191289005, 40191289007, 40191289008

Blank Reporting

Parameter Units Result Limit Analyzed Qualifiers

Total Organic Carbon mg/L <0.25 0.84 07/19/19 07:14

LABORATORY CONTROL SAMPLE: 1903780

Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Total Organic Carbon mg/L 2.3 93 80-120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1903781 1903782

MS MSD MSD MS 40191005001 Spike Spike MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD RPD** Qual **Total Organic Carbon** 3 3 1.3J 39 80-120 10 M0 <2.5 1.3J 39 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1903783 1903784

MS MSD 40191005002 MS MSD MS MSD Spike Spike % Rec Max Parameter Conc. % Rec % Rec **RPD** RPD Units Result Conc. Result Result Limits Qual Total Organic Carbon < 0.84 1 1 0.56J 0.57J 38 39 80-120 10 M0 mg/L

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.



#### **QUALIFIERS**

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

#### **DEFINITIONS**

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

**DUP - Sample Duplicate** 

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

#### **LABORATORIES**

PASI-G Pace Analytical Services - Green Bay

#### **ANALYTE QUALIFIERS**

Date: 07/24/2019 12:27 PM

H5 Reanalysis conducted in excess of EPA method holding time. Results confirm original analysis performed in hold time.

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

M0 Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.



#### **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: 20.0156045 LEATHER-RICH

Pace Project No.: 40191289

Date: 07/24/2019 12:27 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
40191289004	MW-13	EPA 6010	328481		
40191289005	MW-12	EPA 6010	328481		
40191289007	MW-1	EPA 6010	328481		
40191289008	MW-6	EPA 6010	328481		
40191289001	MW-16	EPA 8260	327722		
40191289002	MW-17	EPA 8260	327722		
40191289003	PZ-3	EPA 8260	327722		
40191289004	MW-13	EPA 8260	327722		
40191289005	MW-12	EPA 8260	327722		
40191289006	MW-2	EPA 8260	327722		
40191289007	MW-1	EPA 8260	327722		
40191289008	MW-6	EPA 8260	327722		
40191289009	TRIP	EPA 8260	327722		
40191289004	MW-13	EPA 300.0	327691		
40191289005	MW-12	EPA 300.0	327691		
40191289007	MW-1	EPA 300.0	327691		
40191289008	MW-6	EPA 300.0	327691		
40191289004	MW-13	SM 5310C	327870		
40191289005	MW-12	SM 5310C	327870		
40191289007	MW-1	SM 5310C	327870		
40191289008	MW-6	SM 5310C	327870		

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Phone:	262-754-2594			(	)H	AIN	OF	= C	US	TO	DY	<b>,</b>	Mail To Contact:	Heidi	Woelfel	
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Fax: Samples	on HOLD are subject to	Relino	luished By:				Dat	e/Time:			Received	By:	Date/Time:		Present / No	Constitution and a first and a first of
special pric	ing and release of liability														Intact / No	t Intact

1241 Bellevue Street, Suite 9 %

Green Bay, WI 54302 N Date/ Time: pH≥12 Volume pH ≤2 (mL) INO3 2.5 / 5 / 10 2.5 / 5 / 10

**Sample Preservation Receipt Form** Client Name: Project # All containers needing preservation have been checked and noted below: Yes Do DNA Lab Std #ID of preservation (if pH adjusted): Initial when completed 9H ≥9 /OA Vials (>6mm) Glass **Plastic Vials** Jars General laOH+Zn Act 12SO4 pH ≤2 WGFU VG9M WPFU VG9H AG4U DG9T VG9U VG9D JGFU ZPLC AGIU AGSU **BP2N BP3B BP3U BP3N** BP1U **BP2Z BP3S** SPST Pace S Lab# 001 002 3 003 2.5 / 5 / 10 -3 004 2.5 / 5 / 10 3 005 2.5 / 5 / 10 33 006 2.5 / 5 / 10 007 2.5 / 5 / 10 3 008 2.5 / 5 / 10 2 009 2.5 / 5 / 10 010 2.5 / 5 / 10 011 2.5 / 5 / 10 012 2.5 / 5 / 10 013 2.5 / 5 / 10 014 2.5 / 5 / 10 015 2.5 / 5 / 10 016 2.5 / 5 / 10 017 2.5 / 5 / 10 018 2.5 / 5 / 10 019 2.5 / 5 / 10 020 2.5 / 5 / 10 Exceptions to preservation check: (VOA, doliforn TOC. TOX, TOH, O&G, WI DRO, Phenolics, Other: Headspace in VOA Vials (>6mm): Yes DNo DN/A \*If yes look in headspace column AG1U 1 liter amber glass BP1U 1 liter plastic unpres DG9A 40 mL amber ascorbic **JGFU** 4 oz amber jar unpres AG1H 1 liter amber glass HCL BP2N 500 mL plastic HNO3 DG9T 40 mL amber Na Thio WGFU 4 oz clear jar unpres VG9U WPFU AG4S 125 mL amber glass H2SO4 BP2Z 500 mL plastic NaOH, Znact 40 mL clear vial unpres 4 oz plastic jar unpres AG4U 120 mL amber glass unpres BP3U 250 mL plastic unpres VG9H 40 mL clear vial HCL AG5U 100 mL amber glass unpres BP3B 250 mL plastic NaOH VG9M 40 mL clear vial MeOH SP5T 120 mL plastic Na Thiosulfate AG2S 500 mL amber glass H2SO4 BP3N 250 mL plastic HNO3 VG9D 40 mL clear vial DI ZPLC ziploc bag BG3U 250 mL clear glass unpres BP3S 250 mL plastic H2SO4 **GN** 

## Pace Analytical

Document Name: Sample Condition Upon Receipt (SCUR)

Document Revised: 25Apr2018

1241 Bellevue Street, Green Bay, WI 54302

Document No.: F-GB-C-031-Rev.07

Issuing Authority: Pace Green Bay Quality Office

## Sample Condition Upon Receipt Form (SCUR)

Client Pace Other:  Tracking #: 148 6939 5940	(Nen) UPS I	Wa	40191289
	Seals in		
Packing Material:   Bubble Wiap   Bubble Bags	s E	None	Other
	f Ice: (	Wet	Blue Dry None Samples on ice, cooling process has begun
Cooler Temperature Uncorr: 1/0 - /Corr:	D:-1		
The state of the s	Biologi	icai i	issue is Frozen:  yes no Person examining contents
Temp should be above freezing to 6°C. Biota Samples may be received at ≤ 0°C.			Initials:
Chain of Custody Present:	□No [	□N/A	1.500
Chain of Custody Filled Out: □Yes	No [	□N/A	2. NO Dage # 7/10/2014
Chain of Custody Relinquished:	□No [	□n/a	3.
Sampler Name & Signature on COC:	□No [	□n/a	4.
Samples Arrived within Hold Time:	□No		5.
- VOA Samples frozen upon receipt □Yes □	□No		Date/Time:
Short Hold Time Analysis (<72hr):	□No		6.
<b>\</b>	MNo		7.
Sufficient Volume:  For Analysis: MYes □No MS/MSD: □Yes	7	□N/A	8.
Correct Containers Used:	ĎNo		9.
-Pace Containers Used:	□No [	□N/A	
-Pace IR Containers Used: □Yes	□No	N/A	
Containers Intact:	□No	`	10.
Filtered volume received for Dissolved tests Yes	□No	□N/A	11.
Sample Labels match COC:	□No I	□n/a	12.
-Includes date/time/ID/Analysis Matrix:			
Trip Blank Present:	□No	□N/A	13.
Trip Blank Custody Seals Present	□No	□n/A	
Pace Trip Blank Lot # (if purchased): 4			<u> </u>
Client Notification/ Resolution:		Dot- "	If checked, see attached form for additional comments
Person Contacted: Comments/ Resolution:		Date/	Time.
Project Manager Review:		X	Date: 7-16-19



## **APPENDIX D**

## **ELECTRON DONOR PRODUCT SHEET**

# LACTOIL® SOY MICROEMULSION

CONCENTRATED FORMULATION PROVIDES SAVINGS THROUGH INCREASED DISTRIBUTION, EXTENDED LONGEVITY, HIGH EFFICIENCY

LACTOIL® is a thermodynamically stable microemulsion designed to provide the subsurface distribution and remediation performance characteristics of a highly soluble substrate with the longevity of a vegetable oil.



#### **INCREASED SUBSURFACE DISTRIBUTION:**

- Average particle size < 1 micron</li>
- High emulsion stability allows for greater subsurface transport

#### **EXTENDED LONGEVITY:**

- 98% fermentable emulsion
- Emulsion particles contain both readily soluble and slowly soluble material

#### **INCREASED DEGRADATION RATES:**

Provides sustained lactate for accelerated metabolism

#### **HIGHER EFFICIENCY:**

 Increased contaminant degradation per unit of fermentable product injected as compared to standard EVO

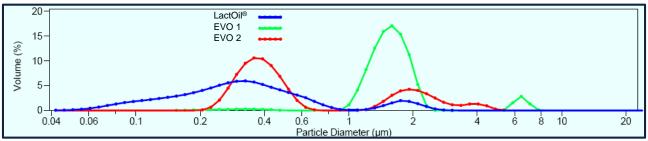
#### **CONTAMINANTS TREATED:**

 Chlorinated solvents, nitrates, perchlorate, RDX, metals, trichloropropane, mine impacted water

#### TREATMENT APPLICATIONS:

Permanent wells, direct push, excavation backfill, bedrock

### **Particle Size Analysis**



Analysis conducted using 1:10 dilution on a Beckman Coulter Light Scattering Particle Size Analyzer

